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THE PREFACE.

THE design of this dissertation, is to prove, that the opinion which has long prevail'd, that the Marks and Deformities Children bring into the World are the sad effect of the Mother's irregular Fancy and Imagination, is nothing else but a vulgar Error, contrary to sound Reason and Anatomy.

I am sensible under what disadvantage this Treatise appears in the World, when I consider the strength of prejudices, and how little some persons can bear to be contradicted.

An objection does naturally present itself, That I write against Experience, That I-

magination

magination is in quiet poſſeſſion, and that to diſturb it in the full enjoyment of its right is meer raſhneſs, and an unwarrantable incroachment; beſides, that's a certain maxim, Cum iis, qui negant principia, non eſt diſputandum.

I own this a compendious way of arguing, to cut the Gordian Knot *aſunder, which 'tis impoſſible to untie. But this does not in the leaſt diſcourage me.*

Thus, in old times, Augurs *pleaded with the ſame aſſurance and poſitiveneſs, an unqueſtionable and uncontroul'd experience of the danger from the* ſcreaking *of an Owl, or from a black Dog croſſing the road in ſight of a Traveller. Thus ſome in our Days plead experience on the fatal conſequences of Comets, Dreams, of the Fall of a Salt-ſeller, what they call the* Death-Watch, *and a great many other things.*

I don't deſpair of ſucceſs: Intereſt alone ſhould prevail upon the party which is chiefly concern'd in the controverſy; for what can be more ſcandalous and provok-

ing,

ing, than to ſuppoſe, that thoſe whom God Almighty has endow'd, not only with ſo many charms, but alſo with an extraordinary love and tenderneſs for their Children, inſtead of anſwering the end they are made for, do breed Monſters *by the Wantonneſs of their Imagination.*

Sound arguments may perſwade a great many of the truth I defend. If thoſe who are for the Strength of Imagination upon the Fœtus, *are ſo ingenious as to confeſs that they have nothing to ſay for their opinion, but that* 'tis ſo becauſe 'tis ſo, *I hope they'll be ſo kind as to permit me to offer my Reaſons, 'tis but juſtice and equity. I own the proofs I make uſe of are not every one concluſive and of the ſame ſtrength; but they depend upon one another, and being all put together, amount, I believe, to a full* Demonſtration, *which I muſt leave to the judgment of the Readers to determine; only I beg of them to take time to weigh the Reaſons calmly, and without partiality, and not to pronounce haſtily, and in an arbitrary way, before a ſufficient hearing and examination. That's the prudent advice* Lucretius *gave to his Friend* Memmius.

PREFACE.

* Ne mea dona tibi ſtudio diſpoſta fideli,
Intellecta prius quam ſint, contempta relinques.

It is alſo neceſſary to prevent ſuperfluous and groundleſs objections, and to make a right judgment in this controverſy, to have always in view the ſtate of the queſtion, as it is ſet down in the firſt chapter; for 'tis by the terms of it that whatever I write againſt the Strength of Imagination, *and the impoſſibility of the Mother's doing the Child any injury, is limited, and is to be underſtood.*

The sketch *I have given* of the true cauſe of Monſters *is ſhort, but I hope 'tis ſufficient for the preſent to give a general, and yet a clear ſolution of thoſe ſtrange* Phænomena.

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* Receive right Reaſon's Voice with well purg'd ears,
Leſt what I write, and ſend you for your good,
Be ſcorn'd, and damn'd, before well underſtood.
Creech's Lucretius.

PREFACE.

I design, the first opportunity, to draw up an exact List of Marks and Deformities on the human Fœtus, *which are real, and not falsely reported to have been existent, and to account for every one in particular. In the mean time, I'll see the fortune of this* Treatise, *and judge by its fate, whether the other may be acceptable to the publick, before I dare to adventure it abroad.*

PRO-

PROPOSITIONS set down in this TREATISE.

I. THERE *are not in the World two* Atoms *that be both alike.*

II. *Chance cannot make an* Organick *Body.*

III. *There's no* Diſſolutio Continuo *without Force or Violence.*

IV. *Imagination acts by ſome Means.*

V. *Paſſion, in reſpect of the Mind, is a Modification of Thoughts, but in reſpect of the Body 'tis Motion.*

VI. *Paſſions act upon the Body by accelerating, or diminiſhing the Velocity of the Blood, and Spirits.*

VII. *Imagination cannot act beyond the Sphere of the Soul, and of the Body.*

VIII. *There's no Senſation without Nerves.*

IX. *Nerves being once divided can never reunite.*

X. *A Ligature, or a Preſſion upon a Nerve, or a Blood Veſſel, makes them uſeleſs ſo long as it laſts.*

XI. *The longer is an Artery, the ſlower is the Motion of the Blood at the Extremity of the Veſſel.*

XII. *The Rudiments of all Plants and Animals are from the Beginning of the World.*

XIII. *Conception is independent on the Mother's Will.*

XIV. *The* Ovum *is for a long Time in the Fallopian Tube, and in the* Uterus *without* Adheſion.

XV. *The* Fœtus *has a Senſation, and Circulation of the Blood independent on the Mother.*

XVI. Monſters *are leſs amazing than regular Bodies.*

The Strength of IMAGINATION IN Pregnant Women EXAMIN'D.

The State of the Queſtion.

TO proceed in a regular and methodical way, and to make a right Judgment in this Controverſy, Whether the Mother's *Imagination* can, or cannot injure the Child *in utero*, it is neceſſary to ſettle the Queſtion, and to determine, What is

allow'd to be true, and what is doubtful and deny'd.

The queſtion is not, Whether the proſperity of the *Fœtus* does depend on the welfare of the Mother: For 'tis granted, 1. That the Child may ſuffer by the diſtempers of the Mother, by ſeveral accidents, as great falls, and blows ſhe receives, by the irregularity of her diet, and of her actions, by dancing, running, jumping, riding, exceſs of laughing, frequent ſneezing, and all other agitations of her body.

2. That a ſudden ſurpriſe, a violent paſſion of anger, an extraordinary grief, or an apprehenſion of danger may be the cauſe of a miſcarriage.

3. That the *uterus*, and the muſcles of the *abdomen*, being in a ſtrong convulſion, may knead the tender body of the child, bruiſe it in ſeveral parts, and cauſe either a mutilation, or a diſlocation.

Laſtly, That the diſappointment of what the Mother longs for, making her uneaſy and pine away, the Child may be depriv'd of ſufficient nouriſhment, grow feeble and weak, and at laſt loſe its life.

All this is not in diſpute; but what I deny is, That the ſtrong attention of the Mother's mind to a *determined* object, can cauſe a *determined* impreſſion upon the body of the Child: As for inſtance, that her ſtrong deſire of a *peach* or of an *apricock* can cauſe the

the colour and ſhape of a *peach*, or of an *apricock* upon a *determined* part of the Child's Body.

This I take to be a vulgar error, as I'll endeavour to prove, partly by reaſon, and partly by Anatomy.

General Reaſons againſt the Opinion, That the Mother's Imagination is the Cauſe of Marks in Children.

I. IMAGINATION and no MARKS.

Imagination is not ſo malignant as 'tis commonly repreſented. How many Women have been diſturb'd by ſtrange deſires, and odd paſſions during their Pregnancy, and yet the Children are well ſhap'd, without the leaſt token relating to the Mother's *Fancy*.

Abundance of uſeleſs projects have been ſet up within theſe few years: I beg leave to propoſe one, which may ſerve to the eſtabliſhment of truth, and to rectify our judgment. 'Tis to erect an *office* to enſure the Children *in utero* againſt ſuch whim, or fancy the Mother ſhould, in due time, declare to have had. I am apt to believe the inſurers would run no great riſque, and the good women would ſoon find themſelves in a miſtake.

II. Marks without Imagination.

There are abundance of Children that are born with ſome Marks or Deformities, and yet the Mother cannot remember any particular accident, or any ſurpriſe or longing, *&c.* to have been the occaſion of them. Does not this prove that nature works ſome other way than by Fancy and Imagination?

III. Imagination pleaded after the Child's Birth.

When there's accidentally any diſcoloration, or any irregularity on the body of the Child, *Imagination* is generally pleaded after the birth, though before no mention was made of it; then the Mother's memory is put to the rack to make her confeſs, that ſhe long'd for this, or for that; or that ſhe had the ſight of ſome dreadful objects. Strange! if during the whole ſpace of nine months, the Fancy had not wander'd to and fro upon a vaſt number of Things.

IV. The ſame effect cannot come from two contrary cauſes.

The Imagination of the Mother is commonly referr'd to theſe few Heads.

1. A ſtrong longing and deſire of ſomething in particular, in which the Mother is either diſappointed or gratified.
2. A ſudden ſurpriſe.
3. Fear, conſternation, anger, *&c.*
4. The ſudden ſight of an ugly and frightful object.
5. The pleaſure of looking on, and contemplating a particular object.
6. To which we muſt add this eſſential circumſtance, which is very ſeldom omitted, *viz.* The application of the Mother's hand to any part of her body, which application, though accidental and not premeditated, is ſuppoſed to work *ſympathetically* upon the ſame place of the *Fœtus*.

I deſire the Reader to obſerve, that ſome of theſe paſſions are very oppoſite and contrary, as *anger* and *love*.

Some are calm and ſedate, as the pleaſure of looking upon a beautiful picture.

Some

Some are tumultuous, and capable to put the mind and body into very great diſorders and confuſion, as fear, frights, and a ſurpriſe.

Now if a pregnant woman happens to long, we'll ſuppoſe, for *Muſcles*, or if, on the contrary, ſhe has a great averſion to *Muſcles*, yet 'tis all one, the Child is reputed to run a vaſt riſque to have upon its body the reſemblance of that ſhell-fiſh.

But is it not ridiculous and abſurd to believe, that the very ſame effect can proceed from two contrary cauſes, from love and deſire, and alſo from fear and abhorrence, from tumultuous paſſions, and from calm ones?

V. Authors to be ſuſpected, and experience doubtful.

A ſtrong prejudice againſt the common opinion, is, that the greater care nature takes to preſerve the different Species of plants, and animals, from confuſion, authors ſeem to be the more ſollicitous in collecting ſtories about Monſters, and the ſad effects of Imagination, and to relate them with great zeal and poſitiveneſs.

Yet, if you weigh carefully theſe pretended facts, you'll eaſily find that ſome of them are ſilly and ridiculous, and carry their condemnation along with them: Some are trump'd

trump'd up with a deſign, others are doubtful, and taken upon truſt, and ſome are downright cheats and impoſtures.

Who cannot but be ſurpriſed at the credulity of *Thomas Bartholin*, who tells you very ſeriouſly, that * a *gentlewoman of* Helſenor, *was deliver'd of a great* Rat, *which, to the great aſtoniſhment of the aſſiſtants, ran away with great* celerity, *and was never ſeen afterwards?* Let the caſe be how it will, the proverb was made good.

Parturiunt montes, naſcetur ridiculus Mus.

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* *Th. Barth.* Gent. 1. Hiſt. 10. Fæmina quædam Primaria, ante annos non ita multos, Helſingoræ, de tempore partus certa, ad puerperium omnia componit, ſed tumidus venter ultimo menſe ſubſidere viſus, quem tamen, ne famam de ſe ſparſam imminueret, factis veſtibus in ſolitam amplitudinem auxit. Inſtante partus momento, prægreſſis conſuetis parturientium doloribus, enixa eſt Animalculum gliri grandiori ſimillimum, quod magno aſtantium fæminarum ſtupore, ingenti celeritate, antra cubiculi petiit nec amplius viſum.

Nolim certam fæminarum fidem ſuſpectam reddi, quia monſtroſos fætus multorum experientia confirmat. Narravit mihi Baſileæ *Johannes Naborousky* nobilis Polonus, amicus magnus vidiſſe ſe in Patria Piſciculos duos ſine ſquammis a muliere editos, qui ſimul ac ex utero prodiiſſent, in aquis vicinis, aliorum piſcium more natabant.

If you dare diſpute the truth of this, *Bartholin* ſeems to take it very ill.

I will not have, ſays he, *the undoubted veracity of Women to be called in queſtion.* Then to make you ſwallow willingly this unaccountable ſtory, he wraps it up with another of the ſame kind. *I have it from* John Naborousky, *a Nobleman of* Poland, *and my good friend, that a Woman of that country was brought to bed of two ſmall* Fiſhes *without ſcales, which were no ſooner born but they* ſwam *in the neighbouring Waters, as* naturally *as others do.*

Fienus has made a collection of ſuch ridiculous Stories in his Book *de viribus Imaginationis.* This may ſerve as a Specimen of the reſt. Philip Meurs, *Apoſtolical Protonotary and Canon of St.* Peter's *in* Louvain, *has affirmed unto me, ſays* Fienus, *that he had a ſiſter compleat in the reſt of her body, but without a* Head; *inſtead of which was joyn'd to her neck the likeneſs of a* Shell-Fiſh, *having two* Valves, *which ſhut and opened, and by which ſhe took her nouriſhment from a* ſpoon. *Her Mother, it ſeems, had long'd for* Muſcles, *but was unhappily diſappointed. This ſiſter lived to be* eleven years *old, and died then by an odd Accident; for happening angrily and very ſtrongly to bite the* Spoon *they fed her with, and* breaking *theſe teſtaceous Valves, ſhe died quickly after.*

ter. * Who ever heard the like? *a Muſcle fed with a Spoon!* Credat Judæus Apella, non ego.

One would think theſe authors have nothing in view but to try the credulity of good people, or to ridicule and diſgrace human nature, and affront the wiſdom of our Maker.

VI. Strength of Imagination pleaded to skreen the faults committed in the delivery.

Some Children are born with large and conſiderable wounds, which, according to cuſtom, are reported to have been made without any immediate application of an inſtrument to bruiſe, divide, or delacerate;

**Philippus Meurs* Protonotarius Apoſtolicus, & *Lovanii* in æde S. *Petri* Canonicus, vir tam ſenex, ut tria viderit ſecula; mihi & infinitis aliis narravit, ſe habuiſſe ſororem toto reliquo corpore perfectam, quæ nullum habebat caput, ſed loco capitis collo ſuperpoſitam concham teſtaceam ad ſimilitudinem mytuli conſtantem duabus valvis, quæ aperiebantur & claudebantur; per quas cibum cochleari miniſtratum ſumebat; quam dicebat ita natam eſſe, ex eo quòd mater ejus tempore geſtationis uteri muſculos marinos quos in foro viderat venales, nimis intensè deſideraſſet & potiri non potuiſſet. Illud monſtrum dicebat perveniſſe uſque ad annum undecimum ætatis, & mortuum eſſe ex eo, quòd ſemel præ iracundia cochlear, quo cibus miniſtrabatur, nimis fortiter præmordiſſet; unde contigebat illas valvas teſtaceas frangi: quibus fractis ipsum moriebatur, p. 226.

but only by the Fancy and Imagination of the Mother at the ſight of ſome dreadful object. But 'tis eaſy to perceive, that theſe reports are often raiſed to palliate and excuſe the faults and accidents that happen in the delivery. We have two ſuch caſes in *Fabricius Hildanus* upon the Faith of *Ludovicus Hornicæus* a Phyſician of *Frankfort.* † *A Woman having been frighted with the firing of a a gun, was deliver'd of a Child with a* Wound *in the back, of the ſame ſhape as if it had been done with a musket ſhot.*———*A Cooper's Wife having been preſent at the killing of a hog, was brought to bed of a Child whoſe entrails hang'd out of the abdomen.*

But two great difficulties preſent themſelves, which make good Dr. *Hornicæus*, who is for Imagination, ſweat, and which indeed are unanſwerable.

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† Nuper matrona quædam explosâ bombardâ perterrefacta, cum prægnans eſſet, hac in urbe Infantulum peperit, plagam in dorſo habentem, non aliter formatam, ac ſi a glande tormentaria inflicta fuiſſet.— Imo quid de tempore impreſſæ hujus plagæ, num imaginatio matris eam in *terroris articulo* (id quod ego ſentio) an verò tempore *excluſionis* demum & *partus* quod alii malunt, cum alius propter inevitabilem Sanguinis affluxionem fœtus virus lucem aſpicere non potuiſſet, fœtui impreſſerit?

Ibid. Non ita pridem uxor victoris, paulò poſtquam pocurm mactari videſſet, Infantulum enixa eſt, cujus infimi ventris partes extra abdomen propendebant. *Hildan. cent.* 6. *Obſ.* 65.

1. How

1. How are these wounds made? Let Imagination be never so much arbitrary and tyrannical, yet it must make use of some means to execute its will and pleasure, and of some bodily force upon the flesh of the Child. Let the blood and spirits be in never so great a hurry, they can't do the office of a musket-ball, of a hammer, or of a knife: And what necessity is there to alledge chimerical causes, when there are fingers, and nails, or other tools near at hand?

2. The second difficulty is, When were these wounds made? If you say in the birth, *in partu*, 'tis what I plead for, and it was the opinion of many in *Hildanus*'s time. If you say in *articulo terroris*, in the very *Instant of the Fright*, how can you suppose that the Child can live long after so great an effusion of blood; or why is it just to charge the Mother with the misdemeanors of other people?

Abominable Cheats.

SOME of those deformities attributed to the Strength of Imagination, are often the effects of impudence, and of the most villanous barbarity. Cruel Mothers have no pity nor mercy on their innocent Babes, cutting and slicing, and disfiguring of them with the greatest inhumanity, to move thereby the charity and benevolence of others, and live a lazy and indolent life.

To be plentifully provided for, without the trouble of working, is a great temptation; beſides every body knows how ingenious neceſſity is, and how far it will carry *mendicants* to the greateſt exceſs. To be perſuaded how much we ought to be jealous of thoſe people, 'tis enough to read the treatiſe *Ambroſe Parey* has left of the frauds of beggars in his time.

I have taken particular notice of ſeveral of them in the ſtreets of *London*, and within the bills of mortality; that many of the Children which they carry about with them have very odd and unuſual deformities and mutilations, eſpecially in their hands and feet.

If theſe irregularities were from the birth, and occaſion'd by Strength of Imagination, why ſhould they appear more on the body of beggars than of any other people? There's certainly a myſtery in this. I am afraid many of theſe vagrants deſerve to be tried upon the *Coventry Act*.

Facts often miſrepreſented.

Two Caſes mentioned by F. Malebranche, *examined.*

STORIES of Imagination are very ſeldom impartially repreſented. Fancy often ſtrives to go beyond the Mother's Imagination, and to

to ſupply, with great prodigality, what's wanting to compleat and finiſh the wonder, *Plus vident, quam quod vident.*

Father *Malebranche*, ſeems to have fallen into this miſtake. He has publiſh'd two ſtories relating to the Strength of *Imagination*, with ſuch an air of aſſurance, that he has impoſed upon the credulity of his readers; but if they are well examined, 'tis eaſy to judge that he has not made a true and fair report.

The firſt ſtory is about a Woman looking upon the picture of a *Papiſt* Saint. *Recherche de la verité.* Lib. 2. c. 7.

Not above a Year ago, ſays he, *a Woman having conſider'd, with too great application, the picture of St.* Pius, *had a Child perfectly reſembling the repreſentation of that Saint. The Child had the look of an* old man, *as much as 'tis poſſible*, without a beard, *his arms were croſſed upon the breaſt, his eyes turn'd towards Heaven, his forehead ſmall, becauſe the image of St.* Pius *being raiſed towards the ceiling of the church, and looking to Heaven, he had almoſt no forehead. He had a ſort of inverted* Mitre *upon the ſhoulders, with ſeveral round marks where Mitres are covered with ſtones. In ſhort, this Child was like the Picture, by which the Mother had formed him through the Strength of her Imagination. 'Tis what all* Paris *may have ſeen as well as I, ſince it has been for a long time preſerved in ſpirits of wine.* There's nothing

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in all this but meer Enthuſiaſm and Bigotry.

Pray conſider how Father *Malebranche*, even in a book where he gives rules to enquire after truth, does readily give credit to the Woman's account, about the contemplation of the Image, upon her bare Word, when it was her intereſt to deceive.

Take notice how boldly he gives the name of an *Inverted Mitre* to ſome few diſcolorations, without entring into particulars, to make us judge better of the Fact.

I believe, had not the Woman been ſo cunning as to wheedle the bigots into her intereſt, for the honour of St. *Pius*, the Child had never been taken notice of. For, 1. Every body knows, that in the agony and ſtruggle of death, the limbs take ſeveral odd poſitions; and the eyes being in Convulſions, are very often turned upwards. 2. That ſmall bodies kept in ſpirits of wine will appear lank and wrinkled. 3. The decay of the *Cerebrum* will cauſe a depreſſion of the bones, and make the forehead appear ſhorter. 4. When the limbs of a dead body are ſtiff, 'tis eaſy to mollify them with warm water, and to put them afterwards into any remaining poſture, by the help of a ſtrong ligature. 5. And who knows but the very diſcolorations upon the ſhoulders, which Father *Malebranche* does not deſcribe, were artificial, the fraud not being diſcover-

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ed by ignorant or credulous Spectators, who came with an implicit faith. How many People who travel into the Holy Land, and other parts of the *Levant*, have the Arms of *Jeruſalem* wrought into their Fleſh; and how eaſy is it to do the ſame upon a dead corps?

We cannot be too much upon our guard againſt cheats and impoſtors. I remember that about 25 years ago, I ſaw, at a Houſe in *Moorfields*, a young lad, who had in one Eye, round the breadth of the *Iris*, the Word *Elohim* in *Hebrew* characters, and on the other eye, and on the ſame place, *Deus*. I was at firſt ſomewhat ſurpriſed; but there being a vaſt crowd of people, I had not time to make a thorough enquiry; nor did I think fit to do it then for fear of a Mob, in favour of the cheat; of which I had a great ſuſpicion; for though all the letters were legible and tolerably well fram'd, yet the *Aleph* and the *Mem* in *Elohim*, and the *S*, in *Deus* were not compleat. I was then told, that there had been a ſolemn deputation from the ſynagogue to enquire into the pedigree of this young lad, in hopes he might prove the *Meſſias*: But afterwards I was informed, that the deceit was managed by two thin pieces of painted glaſs, commonly known by the name of ARTIFICIAL EYES.

A Child in utero *broke upon the Wheel at* Paris, *the Mother's* Imagination *being the Executioner.*

I now come to *F. Malebranche*'s ſecond ſtory, which has made a great noiſe in the world, chiefly upon his recommendation. I'll tranſlate it into *Engliſh* from his own words with the greateſt fidelity.

Seven or eight years ago, was ſeen in the hoſpital of the incurables, *a young man, who was born diſtracted, and whoſe body* * *was broken, in the ſame places where Malefactors are broke; he has lived near* † *twenty years in that condition, and has been ſeen by ſeveral perſons. The late* ‡ *Queen Mother, in viſiting that houſe, had the curioſity to ſee him, and even to touch the arms and legs of that young man,* where they were broke —— ǂ *the cauſe of that ſad misfortune was, that his Mother hearing a Criminal was to be broke, went to ſee the Execution.*

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a Ibid. lib. 2. ch. 7.

* Dont le corps etoit rompu, dans les memes endroits, dans leſquels on rompt les criminels.

† Il a vêcu *prés de vingt ans* en cet état.

‡ *Anne* of *Auſtria*, *Lewis* the 14th's Mother.

ǂ Dr. *Marcot*, Fellow of the Royal Society of *Montpellier*, in his Letter to the Royal Academy of Sciences at *Paris*, ſays, the Mother had been ſuſpected to have broke the Limbs of the Child, to move the Pity and Compaſſion of charitable People. *Hiſtoire de l' Academie des Sciences*, 1716.

Father

Father Malebranche proceeds in good earneſt to explain this ſtrange and unaccountable accident. *Children*, ſays he, *ſee what their Mothers ſee, they hear the ſame cries, they receive the ſame impreſſions of the Objects, and are moved by the ſame Paſſions —— all the blows given to the malefactor did violently ſtrike the Mother's Imagination, and, by a counter-blow, the tender and ſoft brain of the Child——— the fibres of the Child's brain, not being able to reſiſt the torrent of the ſpirits, were broken: That's the reaſon why he came into the world without underſtanding —— the violent courſe of the Mother's animal ſpirits went, with force from her brains to the ſeveral parts of her body which anſwered to the parts of the* malefactor. *'Twas the ſame in the Child— but becauſe the bones of the Mother were capable to reſiſt the violence of the ſpirits, they were not wounded —— perhaps ſhe did not feel the leaſt pain —— but this rapid ſtream of the ſpirits was capable to carry away the ſoft and tender parts of the bones of the Child, —— and 'tis to be obſerved, that if the Mother had determined the motion of her ſpirits towards any other part of her body by a* * ſtrong titulation, *her Child had not had its bones broke, but that part*

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* Si cette mere eut determiné le mouvement de ſes eſprits vers quelqu' autre partie de ſon corps, *en ſe chatouillant auce force*, ſon enfant n'aroit point eu les os rompus.

which anſwered to the part, towards which the Mother had determined her ſpirits, had been ſorely wounded, as I have ſaid already.

I think it had been better for Father *Malebranche* to be certain of the matter of fact before he had ſpent himſelf in ſuch *romantick* reaſons, ſo contrary to *Anatomy*, as I'll ſhew afterwards.

1. Father *Malebranche* ſeems to give us this Relation upon truſt. He does not ſay, that he himſelf had examin'd the young man.

2. 'Tis true, he makes uſe of the *Queen*'s name, but what is that to the purpoſe? Was ſhe a competent judge? The teſtimony of an honeſt and skilful *Bone-ſetter* had been of greater Weight.

3. Who has ever ſeen *fractures*, and eſpecially ſo many as theſe were, to laſt without any *callus* for twenty Years? for it is what Father *Malebranche* does aſſert, *He has lived near twenty years in* that Condition. *The Queen had the curioſity to touch the Arms and Legs* (not, where they had been broke, but) *where they were broke.* Father *Malebranche* ſpoke *French* very politely, and could not here miſtake the expreſſions. Really this is too great an impoſition upon our Faith.

4. In

4. In that dreadful Execution, the criminals receive *le coup de grace*, to ſhorten, if poſſible, their miſery. If the Imagination of the Mother had been able to break the arms and legs of the Child, how came it to ſtop there, and not *fracture* the breaſtbone, which alone had prevented the Child from living twenty years in pains and miſery? Was the Mother's Imagination leſs merciful to the Child than the Executioner to the Criminal?

5. 'Tis very probable, this young man being troubled with the Rickets, the bones of the *Carpus* and *Tarſus* had never come to their full perfection, but did remain *Cartilaginous*, the Ligaments were relaxed, and the Articulations ſo looſe, as upon the leaſt touch to give way. * *There are three ſorts of Luxations, ſays* Fabricius ab aquapendente. — *the Second is, when the bones recede from one another, becauſe of the ſoftneſs, laxity and elongation of the ligaments, the head of the bones is partly out of its cavity. I have often obſerved this luxation upon* Mendicants — *the bones ſeem to hold as by a thread, moving to and fro very irregularly* ——— *There's round about the articulation, a ca-*

* Fabric. ab aquapendente, ch. 1. part 1. lib. 5. ch. 1.

vity, which ſometimes is ſo big as to receive one's finger. This is alſo, according to Dr. *Gliſſon*, one of the diagnoſticks of the Rickets, † *Articuli facile flexiles ſunt, ſæpeque corpori ſuſtinendo impares: unde erecto corpore Antrorſum, vel ſiniſtrorſum non nihil inflectitur. The Joints are very flexible, the body bends forward, backwards, to the right and to the left.* How eaſily then in the caſe of the lad, might theſe ſymptoms paſs, in the judgment of ignorant people, for ſuch fractures as are uſually made near the ſame parts upon criminals, and give the Mother an opportunity to frame that idle ſtory, to move people's charity and compaſſion?

Mr. BOYLE *impoſed upon by an* Iriſh *Officer.*

The caſe of the *Iriſh* Officer, whoſe hair is reported to have changed colour in a ſhort time, has directly nothing to do with the preſent queſtion, yet as Mr. *Boyle*'s undeniable integrity has given to that hiſtory a great reputation, and that it is always taken notice of, when-ever authors ſpeak of the Strength of *Imagination* in pregnant Women, I beg leave to make this ſmall digreſſion to ſhew how far Mr. *Boyle*'s good na-

† Gliſſon de Rachitide chap. 21.

ture

ture was impoſed upon. Theſe are his own words. †

I remember, that being four or ſix years ſince in the county of Cork, *there was an* Iriſh *Captain, a man of middle age and Stature, who coming with ſome of his followers, to render himſelf to your Unkle* Broghill, *who then commanded the* Engliſh *forces in thoſe parts, upon a publick profer of pardon to the* Iriſh *that would then lay down their arms; he was caſually, in a ſuſpicious place, met with by a party of the* Engliſh, *and intercepted, and my brother being then abſent upon a deſign, he was ſo apprehenſive of being put to death by the inferior officers, before your Unkle's return, that the anxiety of mind,* quickly *changed the colour of his* Hair *after a particular manner; of which, I being then at that caſtle of your Unkle's, whereunto he was brought, had quickly notice given me, and had the curioſity to examine the captain, and found that the hair of his head had not, as in the inſtances I had met with in hiſtories,* uniformly *changed its colour, but that here and there certain peculiar tufts and locks of it, whoſe Baſes might be about an inch in diameter, were thus* ſuddenly *turned white* all over: *The reſt of*

† *The uſefulneſs of experimental natural philoſophy.* p. 245. Oxford 1664.

his

his Hair, of which you know the Iriſh *uſe to wear good ſtore, retaining its former reddiſh colour.*

I wiſh this honourable gentleman had been ſo kind as to tell us what other proofs he had of that *ſudden Change*, beſides the bare word of a ſtranger, and of his men: What aſſurance had Mr. *Boyle* that theſe few Tufts and locks, about the diameter of an inch, were not *naturally* white all over before the Captain was apprehended?

I remember a ſchool-fellow of mine, who had from his birth a lock of *white Hair* on one ſide of his head: and *Tancred* Duke of *Rohan*, who in his infancy had been kidnapped, was partly known again by that token.

It was certainly no bad policy in the Captain, in his dangerous and preſſing circumſtances, to deceive ſuch a merciful and tender-hearted gentleman as Mr. *Boyle* was, the only perſon in that place, his own brother's caſtle, fit to interpoſe his authority in favour of the priſoner, during the abſence of the governor.

Dolus aut virtus, quis in hoſte requirit?

Beſides, the improbability of this, and of all other ſuch Stories, appears from the nature of the Hairs.

They

They depend ſo little on life, and conſequently on Fancy and Imagination, that they grow even upon dead bodies.

They are of a horny ſubſtance, which lengthens as the nails do, each part near the root thruſting entirely forward that which is immediately above it, and not by any liquor running along the hair in tubes as plants grow; ſo that, whatever hair is of one colour, does remain ſo till it drops off, and a new crop of a different colour is puſhed on from the root.

And except the hair of the *Iriſh* officer could have ſhed, and grown again in a few hours, I don't ſee how it was poſſible to alter the colour of thoſe which were already produced.

JACOB's *Policy, in placing Rods of a certain Colour before the Cattle, explained.*

Before I go any farther, 'tis neceſſary to remove an objection, which is taken from *Jacob*'s placing rods of a particular colour before the cattle.

Gen. xxx. 38, 39.

And he ſet the rods, which he had pilled, before the flocks in the gutters in the water-troughs, when the flocks came to drink, that

that they ſhould conceive when they came to drink.

And the flocks conceived before the rods, and brought forth cattle ring-ſtraked, ſpeckled, and ſpotted.

This, at firſt view appears to be an invincible argument againſt my hypotheſis, and being taken from ſcripture, for which we ought to have the greateſt reſpect, may eaſily impoſe upon unthinking people; yet it has no foundation nor ſolidity in it.

1. 'Tis a certain axiom in logick,

Quod nimis probat, nihil probat:

an argument which proves too much, proves nothing; for if the words abovementioned are to be underſtood literally, and without any modification, they would alſo imply, that the cattle *conceived* by virtue of the rods, without the uſual means of Generation.

2. There's good reaſon to ſuſpect the exactneſs of the tranſlation, and that the divines in King *James*'s time were guided more by their prejudices, than by the original; for the proper *Hebrew* word for *concipere* is הרה, which is not

not uſed in this Place. יחמ in the Text ſignifies *Incaleſcere, to grow hot*, * and if we take it in a metaphorical Senſe, *Coitum appetere.* All which is antecedent to *Conception.*

I am therefore of opinion, that the text ſhould have been thus rendered.

" And he ſet the Rods in the Ducts, in " the channels of the waters which the " Flocks came to drink, and they were *rut-* " *ting* when they came to drink.
" And the flocks grew hot towards the " rods, and brought forth cattle ring-ſtrak'd."

3. As the ſcripture does not tell us in what manner the rods were placed, we may lawfully ſuppoſe, that they made afar off a rough repreſentation of a ſpeckled ram, or he-goat.
4. This was very uſeful to *Jacob*'s Deſign, but upon a very different Account from what the favourers of *Imagination* believe. It was, in all probability to incline the ews, in *rutting* time, to take the Rams that were ſpeckled before others. experience ſhewing, that animals are taught abundance of tricks, in expectation of their victuals: And, as the

* Vide Pagnin. Theſaur.

ews, in that hot country, could have no water, except they drank it where the party-coloured rods were placed, that colour became very pleaſant to them, and naturally determined their inclination towards the ſpeckled rams preferable to others.

5. That the colour of the new cattle did not proceed from the rods by virtue of Imagination, but from a more prevailing cauſe, *viz.* from the colour of the rams, I have for my vouchers, no leſs perſons than *Jacob* himſelf, and the angel of God, whom I rather believe than all the commentators in the world.

Gen. xxxi. 10, 11, 12.

And it came to paſs at the time that the cattle was rutting, *that I lift up mine eyes, and ſaw in a dream, and behold, the rams which leaped upon the cattle were ring-ſtraked.*

And the Angel of God ſpake to me in a dream, ſaying, Jacob —— *lift up now thine eyes, and ſee all the rams which leap upon the cattle are ring-ſtraked.*

This is ſo plain, that I cannot conceive what anſwer my opponents will give to this interpretation.

Arguments

Arguments from Reaſon and Anatomy againſt the power of the Mother's Imagination upon the body of the Fœtus.

What has been ſaid before, was chiefly to prove, that thoſe, who are for the power of the Mother's Imagination upon the body of the *Fœtus*, are not ſo much grounded on experience as they pretend, and that the inſtances they produce, are either ridiculous or without any foundation.

Now I come to cloſer arguments, to ſhew, both by Reaſon and Anatomy, that 'tis impoſſible Children ſhould be marked by virtue of the Mother's Fancy, in all which I'll alledge nothing but what is certain and known, or demonſtrable by experiments.

No Equivocal Generation.

There's no *Equivocal* Generation. Animals, which are compoſed of ſo many different parts, can never be the reſult of chance, and of Atomes meeting accidentally, and joining one with another. Nature keeps to certain laws of uniformity, and does not go two different ways in the formation of one and the ſame animal. 'Tis now looked upon as a fable, that dead bodies turn into worms, that the fleſh of a bullock is changed into bees, and that ſerpents can be produ-

ced out of the *ſpinal* marrow of a man, according to *Pliny*, who had, in all probability, taken it from *Ovid*, *Metamorph.* Lib. 15.

Sunt qui, cum clauſo putrefacta eſt ſpina ſepulchro,
Mutari credant humanas angue medullas.

Sir *Kenelm Digby* has given a receipt in due form to raiſe *Lobſters* out of their own ſalt artificially prepared; but what ſhall we ſay to *Paracelſus*, who has been ſo mad, as to offer a proceſs for the propagation of mankind in chymical veſſels? *Francis Redi* * in his Book *De Generatione Inſectorum*, does remark, That *theſe falſe ſtories have been tranſmitted from one author to another, but with ſome addition*, as if intereſt were to be paid for the original invention: To which he adds, *That ſince the beginning of the world, when the firſt plants and the firſt animals were produced by the command of God, the earth, had never yielded any other plants, or trees or animals, perfect or imperfect: And that whatſoever has been upon earth, in preceeding Ages, or is at this time, came from the true and real*

* Nugæ ſunt, antiquitus caſu ab hoc vel illo inventæ, & ab iis poſtea pro veris habitæ, ac non ſine additamento aliquo in literas relatæ,

ſeed

ſeed of plants and animals; and that by means of the ſeed, they preſerve their ſpecies. †

The Parts of the Fœtus *præexiſtent to Conception.*

All parts of the *Fœtus* are actually exiſtent ſomewhere, and delineated even before Conception, as a plant which is contain'd in the ſeed, before the ſeed be put in the ground. This will eaſily appear by examining the ſeveral ſyſtems relating to this ſubject.

The Ancients had but confuſed notions relating to Generation, and what they ſaid upon it is not worth while to mention, being inconſiſtent with ſenſe and reaſon.

Dr. *Harvey*, who has made his Name immortal by the diſcovery of the Circulation of the Blood, is the firſt who diſcover'd the proper place of the formation of the

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† Non reticebo, me ſæpius repetitis obſervationibus eo deductum eſſe, ut credam, terram, poſt primas illas plantas, & prima illa animalia, quæ ſub ipſa mundi primordia ſupremi creatoris juſſu produxit, per ſe, nec herbas, nec arbores, nec animalia qualiacunque perfecta aut imperfecta produiſſe: Et quod omnia illa, quæ vel præteritis ſeculis nota ſunt, vel hoc tempore eſt, vel ex terra naſci videntur, ex ſemine plantarum reali & vero, nec non ipſorum etiam animalum naſcantur, ut quæ, mediante ſemine proprio, ſpecies conſervant.

chick

chick in the *cicatricula* of the egg, and the formation of the parts, ſo far as it was diſcernable by the naked eyes; and who alſo aſſerted, that all Animals are *ex Ovo*, as may be ſeen in his 62d Exercitation, whoſe Title is *Ovum eſſe primordium commune omnibus animalibus.* But the misfortunes of the civil war, and the barbarous treatment he had from brutiſh and ignorant ſoldiers, * who burnt all his papers, to the great detriment of learning, did not permit that worthy gentleman to finiſh his ſyſtem, which he left ſomewhat obſcure and intricate.

Dr. *Harvey*'s Syſtem was much improved by *Regnerus de Graef*, who made ſeveral Experiments upon that ſubject: He not only aſſerted, that *Eggs* are the firſt and true origin of all Animals, both *oviparous* and *viviparous*, but alſo that they † actually exiſt

* Atque hæc dum agimus, ignoſcant mihi niveæ animæ, ſi (ſummarum injuriarum memor) levem gemitum effudero. Doloris mihi hæc cauſa eſt. Cum inter nuperos noſtros tumultus, & bella pluſquam civilia, ſereniſſimum regem (idque non ſolum permiſſione ſenatus, ſed & juſſu) ſequor, rapaces quædam manus, non modo ædium mearum ſuppellectilem omnem expilarunt, ſed etiam (quæ mihi cauſa gravior querimoniæ) adverſaria mea, multorum annorum laboribus parta, è muſæo meo ſummanarunt: quo factum eſt, ut obſervationes plurimæ (præſertim de generatione inſectorum) cum reipublicæ literariæ, auſim dicere, detrimento, perierint. Exercit. 63.

† Sed ex *Ovo* ante *Coitum* in mulierum teſtibus exiſtente originem ſumere.

in *fœmineis Teſtibus* before Conception, and that they are *fecundated*, and do come down through the *fallopian* tube into the bottom of the *uterus*, as the *vitelli* in Birds get into the *oviduct*.

That theſe *Ovo* are abſolutely neceſſary for the formation of Animals is demonſtrated by this, that *generation* becomes impoſſible as ſoon as the *Ovary* is extirpated.

According to this Hypotheſis, all the parts of the *Fœtus* are in the *Ovum* at one and the ſame time, both ſmall and great, both internal and external: and tho' ſome appear perfect before the others, yet they have been *exiſtants*, and have had their beginning at the ſame time: As an *Acorn*, which even before it be ſet in the ground, does, in *epitome*, contain the *Oak*, with all its roots, branches and leaves.

The *Semen Maſculinum* is the proper and only means that nature uſes to *manure* the *Ovum*, by throwing a new ferment in the blood, which does enable the *Lympha* to enter more eaſily into the pores of the *Ovum*, to open the ſeveral paſſages, promote the motion of the juices, and cauſe inſenſibly an increaſe of all the parts. And indeed the ſudden appearance and diſplaying of all the parts of the *Chick*, after incubation, makes it clear, that they are not then actually form'd out of a Fluid, but that the *Stamina* of them have been formerly there exiſtent, and are then unfolded.

It

It appears alſo, by a juſt conſequence from this *Hypotheſis*, that the *Fœtus* muſt have been ſomewhere from the very beginning of the world, *viz.* in the *original Ovum*; as all Plants that are, or ſhall be, were in the *original* Seed; ſo that, if *Solomon* was to come again into the World, and learn this philoſophy, he would be mightily ſurpriſed, that what he ſaid as a common proverb in reſpect of virtues and vices, that *there's nothing new under the Sun*, is more extenſively and literally true in relation to plants and animals.

This *Hypotheſis* of *R. de Graef*, ſo rational and ſo plain, and grounded upon the ſimile of plants, which are actually contain'd in the Seed, did not ſeem to want much to be brought to perfection, eſpecially ſince ocular inſpection could trace the *Ova* from the *Ovary* down to the *Tube*, and the bottom of the *Uterus*. When this grand myſtery of Nature was ſet in another light by the laborious Mr. *Leewenhoeck*, who firſt diſcover'd, with his Microſcopes, a vaſt number of Animalcula *in Semine maſculino*. It is ſurpriſing to ſee the prodigious number of thoſe *Vermiculi*, like ſo many *Tad-poles*, ſwimming every way: They are ſo ſmall, that ſeveral thouſands of millions of them are not equal to a grain of ſand, whoſe diameter is but the hundredth part of an inch. He has carry'd the nicety ſo far, as to diſcern in the ſame

ſame *Sperm*, two ſorts of *Animalcula*, which he judges to be for the difference of the ſex.

That theſe *Animalcula* are neceſſary to the formation of the *Fœtus* is plain from this, *viz.* That thoſe Men whoſe *Semen* is deprived of them, prove uncapable of getting Children. All this, *Leewenhoeck* has made evident by ſo many obſervations, that the truth of it cannot be call'd in queſtion.

So that according to his opinion, all Animals are *ex Animale*, which have all their parts pre-exiſtent to conception according to their different kinds.

This diſcovery ſeems at firſt view, to overthrow *R. de Graef*'s *Hypotheſis*, and condemn the reality of the *Ova*, as chimerical; but as the opinions of *de Graef* and *Leewenhoeck* have both a great deal of truth in them, and are *partly* grounded upon many undiſputable experiments, and ocular demonſtration; 'tis better to reconcile them as Dr. *Gardener* has happily done, by aſſerting, that the Female *Ovum* is the proper *Nidus*, in which the Animalcule lodges it ſelf, and by which it is nouriſhed for ſome time.

By what *ducts* or paſſages the *Animalculum* gets into the *Ovum* is not yet diſcovered; the *Fallopian Tube* ſeems the moſt probable way, if it was not contrary to nature, that the ſame ſhould ſerve for two oppoſite purpoſes, *viz.* to convey the *Ani-*

malcule

malcule to the *Ovary*, and afterwards to bring it back from thence. But let it be done how it will, the *Vermiculi* are certainly lodged there, as appears by the *oviparous* animals.

This anſwers to *Malpighius*'s obſervation, who has often ſeen in the *Cicatricula* of an Egg, before incubation, as it were the rudiments of an animal, in the ſhape of a *Tadpole*, but could diſcern no ſuch things in thoſe which were not fecundated. And a long time before *Malpighius* and *Leewenhoeck*, ſomething like it was diſcovered by Dr. *Harvey*, with great admiration, in the formation of a chick. * *It appears*, ſays he, *in the Shape of a ſmall* Worm *or of a* Maggot, *as we obſerve the beginning of* Worms *upon the leaves of trees*, &c. *eſpecially in the oak-galls, in the center of which a limpid liquor, inſenſibly*

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* Apparet nempe forma vermiculi, ſive Galbæ ſicut in frondibus arborum —— præſertim vero in gallis quercinis quarum in centro —— liquor limpidus continetur, qui ſenſim craſſeſcens & coagulatus, ſubtiliſſimis lineamentis diſtinguitur galbæque formam induit.

Nos vero quorumlibet animalium generationem eodem modo fieri docebimus: omnia nimirum animalia, etiam perfecta, ſimiliter ex vermiculo gigni.

Eſt equidem quod miremur animalium omnium præſertim ſanguineorum, puta canis, equi, cervi, bovis, gallinæ, ſerpentis, hominis denique ipſius primordia, tam plane galbæ figuram & conſiſtentiam referre ut oculis internoſcere nequeas. *Harvey* Exercit. 18.

grows

grows thick, and takes the form of a Maggot. ——— *We'll ſhew afterwards that the generation of all animals is made the ſame way, and that they are generated from a Worm.* ——— *'Tis very wonderful that all ſanguineous animals, even* Men *themſelves, have in their beginning the ſhape and conſiſtence of a* Maggot.

Thus you have three different ſyſtems about the formation of the Child, the moſt rational that can be contrived: I do not pretend to determine which of them is the beſt, or to pronounce between *De Graef*, *Leewenhoeck* and Dr. *Gardener*. Let the reader judge for himſelf; only I'll obſerve, that 'tis certain they all agree in this particular, that the parts of the *Fœtus* are exiſtent ſomewhere before conception, upon which I propoſe theſe queſtions.

1. By what means can the Mother's *Imagination*, on a ſudden, and without her conſent, obliterate the lineaments of the *Fœtus*, which were pre-exiſtent to conception, and ſubſiſting, even ſince the creation of the World, and, in an inſtant produce new limbs, new articulations, new arteries and veins, new glands with *lymphaticks*, and other *excretory* veſſels, ſuch as we ſee very often in ſome monſtrous births, when

ſhe is entirely ignorant of the ſtructure of the body.

2. If *Leewenhoeck*'s or Dr. *Gardener*'s notion be true, by what right has the Mother's Fancy any influence upon the body of the *Fœtus*, which comes from the *Semen virile*, and which is, in reſpect to her, but a *Paſſenger*, who has taken there his lodging for a ſhort time? If the Father could not cauſe, by the Strength of Imagination, any change in the Animalcule which was originally in his body; I deſire to know, why the Mother ſhould plead that priviledge in excluſion to the Father?

Conception Independent on the Mother's Will.

Conception, by the providence of God, does never depend on the Mother's mere will and pleaſure. How many virtuous Women do heartily wiſh to have Children, and yet their vows prove unſucceſsful, when ſome others *conceive*, and go their full time, in ſpite of many violent preparations they willingly take to deſtroy the *Fœtus*?

The nutrition and increaſe of the *Embrio* goes on according to the laws of nature, whether the Mother's inclination be for it, or againſt it.

'Tis

'Tis not alſo in the Woman's power to chuſe a boy or a girl, or to have one or two at a birth, to make the Child fair or brown, big or ſmall, weak or ſtrong, to reſemble the Father, or to be like Her in features.

If it be granted, that the Mother cannot, by the Strength of Imagination, promote or delay conception, how can any body ſuppoſe, without a reflection upon the wiſdom of God, that the circumſtances of it ſhould be left to her, not ſo much to do good, in framing a beautiful Child, as to disfigure it, and ſpoil the regular work of nature?

The Mother cannot have a greater Power over the Fœtus, *than upon her own Body.*

The common opinion is, that a *determined* thought of the Mother can produce a *determined* effect in the *Fœtus*; but is it not abſurd, to believe that the Mother, by her *Imagination*, has a greater influence over the Child, than upon her own body?

I own the effects of Imagination are very conſiderable. Fancy contributes now and then to the cure of diſtempers; a favourable opinion of the phyſician and of the remedy, is very uſeful. On the other hand, grief, and trouble of mind may be followed by a Conſumption, an Atrophy, a Dropſy, Diſtraction, Madneſs, *&c.* Violent paſſions will cauſe Convulſions, Shortneſs of Breath, Fevers,

Fevers, Epilepſy, Apoplexy, and even Death it ſelf. There's a ſtory of a Man, who being upon a ſcaffold, in order to his execution, died inſtantly by the gentle ſtroke of a wet cloth, inſtead of an ax.

But who will believe, that the fear of the *Gout* gives that diſtemper? How many melancholy people do imagine themſelves to be lame, or to have a long noſe, or to be ſo big, as not to be able to get through a door, and yet, for all their ſtrong Fancy, they have no alteration in their noſe, no bulkier body, nor any diſlocation of their limbs.

I have never heard, that the fear of being ſhot to death has ever been able to make any wound in the fleſh; that the notion of being run through with a ſword, has ever cut the ſkin, or made any diſſolution of the continuity; the Fancy of being made of glaſs, does not in the leaſt alter the nature of the fleſh.

Mr. *Boyle*'s *Iriſh* Officer might wiſh heartily a hundred and a hundred times, without any ſucceſs, for a pair of wings to favour his eſcape, or an alteration in the colour of his hair, to move pity and compaſſion.

'Tis reported indeed, that the fear of the *Plague*, or of the *Small-pox*, has been the occaſion of thoſe diſtempers, but who can be poſitive, that they were not got by *contagion?* ſince experience ſhews, that many who have had a violent apprehenſion of them,

them, when they were rife, have notwithſtanding eſcaped.

* *Fancy does not cauſe the diſtemper*, ſays Fienus, *but the diſtemper gives occaſion to the Fancy. 'Tis true, there may be no viſible ſymptoms of the indiſpoſition, but 'tis already begun, and is felt by the patient, who complains of it, and fears it. All this while he is not thought by other people to have the ſickneſs, but when it appears outward, then he is reputed to have got it by the power of Imagination.*

If the Mother, by the Strength of her Fancy, cannot make any mark or ſignature in her body, if ſhe cannot change the figure, ſituation, quantity and number of her limbs: In ſhort, if ſhe cannot make a *determined* alteration in her own body by a determined *Imagination*, why ſhould we believe, that ſhe is able to do it in the Child?

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* Quod quidam in morbos inciderint, quos imaginati fuerunt, factum fuiſſe, non quod phantaſia illum morbum fecerit; ſed contra, quod morbus fecerit phantaſiam. Et enim non ideo homines morbum acquirunt, quia imaginantur ſe eum habere, ſed quia eum habent, vel jam ejus aliquod principium in ſe ſentiunt, ideo ſe eum habere imaginantur, eumque timent, & de eo conqueruntur. Verum quia interdum morbus tantum incipit, & adhuc non prodit ſe externis ſymptomatibus, unde homines judicant eos non ægrotare, ideo, poſtquam jam vident eos in morbum, de quo antea fuerant conqueſti, incidiſſe, putant eos illum per vim imaginationis contraxiſſe. *Fienus*, Quæſt. 10.

It

It is said indeed, that the Mother's body is strong and hard and capable of resistance, and that the *Fœtus*, is like soft wax, which does easily receive any impressions: But is not the Mother the neareſt to the *Impetus* of Imagination? And don't we find that things that are soft and pliable are broke with much greater difficulty than those which are of a great consistence. A large rope, with a knot, is easier separated than without it. But this will appear more, by what follows.

The Nature of Passions, and their Seat, how they affect the Mother; the Impossibility for the most turbulent Imagination to reach the Body of the Fœtus.

'Tis granted by the advocates of Imagination, that it does not act purely by it self alone, and by a *Nod*, but by certain natural means, *viz.* by *Passions*, which disturb the blood, and the animal spirits; so that to have a right and true notion of the power of the Mother's Imagination over the *Fœtus*, 'tis very proper to determine what is passion, and how, and where it affects the body.

Passion, says Mr. Locke, *in respect of an intellectual being, is a modification of thoughts; in respect of a corporal being, motion.*

According

According to that definition, *Paſſion* in reſpect to *pregnant* Women, is a ſtrong attention to a particular object, ſometimes with pleaſure and ſatisfaction, and a great deſire of it, and ſometimes with uneaſineſs and abhorrence.

In reſpect of the body, 'tis the motion of the blood, and ſpirits, the velocity of which is altered, being either diminiſh'd, or accelerated.

I have obſerved before, there are calm and tumultuous paſſions; I add now that the organs of reſpiration are properly the ſeat of violent paſſions, and that from their diſorder, their chief ſymptoms ariſe; as the Inarticulation of the voice, the difficulty of breathing, the palpitation of the heart, bluſhing or paleneſs, which appear in the Face, Convulſions, Deliquium, Apoplexies, *&c.*

If the Mother is affected with a mild paſſion, I don't know how it can any ways be an injury to the Child, becauſe ſhe has little or no emotion her ſelf; the alteration in the blood and ſpirits is not conſiderable, nor can come to any heighth, though it ſhould be laſting. The whole ſcene ſeems to be confined within the Mother's mind. She takes a great delight in contemplating the picture of a Man who is of a black or fair complexion; what harm can follow from it? Does the picture fright her, when, it may

be, ſhe is familiarly acquainted with the original?

The caſe is not the ſame in reſpect to violent paſſions, which diſorder the Mother, ſince the blood and ſpirits are then in the moſt rapid motion that can be imagined; and yet, I ſay, they cannot affect the *Fœtus* and produce, in the ſenſe that I have ſettled the queſtion, thoſe ſtrange and unaccountable Metamorphoſes of its body. 'Tis what I am going to prove, giving in the mean time full liberty to my opponents to make any ſuppoſition they think fit, and order the blood and ſpirits to gallop at what rate they pleaſe for the good of their cauſe.

1. Paſſions are grounded upon the knowledge of the object, a quick thought, and ſome ratiocination.

What is ſurprize, but a ſort of a ſudden compariſon between an ordinary object we are uſed to, and an extraordinary one we are not acquainted with?

Sudden fear is an inſtantaneous compariſon of ſtrength on both ſides, and a conſciouſneſs of debility, and weakneſs.

Longing is grounded upon the judgment we make of the uſefulneſs of what we long for.

All theſe reflexions Children are not capable of; their thoughts, if they have any

are

are limited by their ſtate, and the narrow bounds of ſenſation. The Mother's thoughts are peculiar to her, and without the reach of the Child's mind, which is unacquainted with the ſeveral objects that diſturb the Mother. She is afraid of a naked ſword, becauſe ſhe knows or apprehends the raſhneſs of the Man in whoſe hands it is; ſhe is moved at the ſight of a cat, or of a dog, becauſe ſhe's timorous and does not know but ſhe'll be bitten or ſcratched: She is diſturbed at the ſight of a butcher, who kills a beaſt, becauſe ſhe is of a merciful temper; but in the mean time, the Child is in a ſtate of neutrality, becauſe it has not yet the neceſſary Idea's of things, and how ſhould it have them *in Utero*, when ſeveral months muſt paſs after the birth, before it comes to ſome little knowledge and underſtanding?

To ſay, with Father *Malebranche*, that the Children ſee what the Mothers ſee, that they hear the ſame cries, *&c.* 'tis to ſay, in other words, that Children ſee without light, and hear without the vibration of the air, and when their ears are ſtopt: In ſhort, 'tis to ſpeak at random: How ſhould ſhe communicate her thoughts to the Child? Is not her ſoul diſtinct from the ſoul of the *Fœtus?* Is there any communication of nerves between her brain, and the brain of the other? If there be any, let them be ſhewn?

2. Children *in Utero* have the organs of reſpiration in a ſtate of *Inaction*, and conſequently the dreadful ſymptoms, that affect the Mother, and which I have already mentioned, cannot come within their reach: They can neither grow pale, nor bluſh; no aſthma, no inarticulate voice, no confuſion and diſorder in their countenance, and other ſuch accidents, incident to paſſions can affect them, becauſe they are altogether inconſiſtent with their preſent condition.

3. Pregnant Women have often high Fevers, in which the blood and ſpirits are put in a greater motion, and more laſting than the hurry which comes from any paſſion, and yet the Children are born without any particular Marks or Deformities.

4. There's no *immediate* communication of blood and ſpirits between the Mother and the Child, without which 'tis not poſſible for the Mother's Imagination to act upon the *Fœtus*. This I'll prove hereafter, when I come to conſider the ſtate of the Child *in Utero*.

The

The different ſtages of the Child in Utero.

To put this in a true light, and determine how far 'tis poſſible for the Mother's Imagination to reach the Child, 'tis very neceſſary to conſider the different changes the *Fœtus* undergoes, from the very firſt beginning of Conception till it comes into the World. There are three ſeveral ſtages.

1. When the *Ovum* is ſtill engaged in the *Ovary*.

2. When the *Ovum*, being actually ſeparated from the *Ovary*, remains for ſome time looſe, and without adhæſion, either in the *Fallopian Tube*, or in the bottom of the *Uterus*.

3. The laſt ſtage is, when the *Ovum* is ingrafted in the *Uterus*, by means of the *Placenta*, and the umbilical veſſels.

Theſe ſeveral ſtages being well conſidered, it will appear, that the *Fœtus*, in reſpect of the Mother, is all along no more to her than a Child that is in a nurſe's arms, and at her breaſt, by which it receives nouriſhment, but is not reputed to be part of her body. This at firſt may be look'd upon as a great

great *Paradox*, but, I hope, 'tis clearly demonſtrable.

The firſt ſtage of the Fœtus *conſidered.*

The firſt ſtage of the *Fœtus* is when the *Ovum* is ſtill in the *Ovary*.

1. The *Ovaria* are two Fingers breadth diſtant from the bottom of the *Uterus*. In Women, who are come to age of maturity, they are each of them about the bigneſs of a pidgeon's egg, and covered with a proper membrane, which ſticks cloſe to their ſubſtance, and is not eaſily ſeparated. However, when it is removed, they appear ſoft and whitiſh, having, in the interſtices of their Fibres, ſeveral ſmall and round *Veſiculæ* full of a clammy liquor, which, being boiled, has the ſame ſmell, taſte, colour, and conſiſtence as the white of an egg when 'tis hardened.

The blood veſſels, which are very ſmall, make a great many turnings and windings, and ſpend themſelves upon the membranes of the *Veſiculæ*.

It is to be obſerved, that, in the narrow center of each *Veſicula*, is lodged a ſmall round body, which being pricked, affords alſo a limpid water, like the other. This

ſmall

ſmall body is properly the human *Ovum*, made up of two Coats, of the *Colliquamentum*, or the humours deſigned for the nouriſhment of the *Fœtus* of the *Cicatricula*, the appartment deſigned for it; and of the *Secundines*. This is the ſtate of the *Ovum* before *Fecundation*.

2. I now proceed to examine the *Ovum* after *Fecundation*. 'Tis not here my buſineſs to determine, when, by what mechaniſm, and where it is fecundated. I know learned Men are not agreed upon that ſubject amongſt themſelves. But to give my opponents as much room as they can deſire to defend their cauſe, I'll ſuppoſe for the preſent, that the fecundation is done in the *Ovary*, and indeed I know nothing to the contrary: Then, afterwards, if they think fit, they'll give that office to the *Tubes*: And laſtly, if they pleaſe to the bottom of the *Uterus*; 'tis all one to me, I hope, to beat them out of all their entrenchments. I proceed:

After fecundation, the liquor, in which the *Ovum* ſwims, does inſenſibly grow thick and tough, like a glandulous ſubſtance, and preſſing the *Ovum* on all ſides, and chiefly on the lower part, where it may be joined

to the Ovary, forces the tender *Pediculus* (if there be any) to give way. In the mean time, the fibres of the *Veſicula*, being pulled downwards by a ſtrong contraction, open on the top a ſmall *Foramen*, like a *Papilla*, through which the *Ovum* makes its Paſſage: On the other ſide, the extremity of the *Fallopian Tube* embracing the *Ovary*, does, by a vermicular motion, ſuck in the *Ovum*, and receive it into its cavity, to be conveyed afterward into the bottom of the *Uterus*.

Reflections upon the firſt ſtage of the Fœtus.

'Tis eaſy to ſee, that the Mother's Imagination can have no effect upon the *Fœtus*, when the *Ovum* is in the *Ovary*.

1. 'Tis not likely to be at the very beginning of Conception, for which * *Fienus* gives this reaſon, *Parentes rei venereæ operam dantes, ita ei toti ſunt intenti, ut nihil aliud cogitant: & vel ſit nox, vel ſint ſejuncti a rebus externis & ita non habeant occaſionem quid externum imaginandi, vel tale aliquid imaginandi, ex quo magnum aliquod deſiderium, aut terror ſequi poſſit.*

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* Queſt. xx.

2. Pray,

Pray, take notice of the great care nature has taken to preſerve the *Ovum* againſt the *Impetus* of the blood and ſpirits, by encloſing it in a ſoft ſubſtance, which breaks the ſhocks and blows that might happen, and alſo obſerve, that the *Cicatricula*, where the rudiments of the *Fœtus* are to make their appearance, has a double mote, or intrenchment, *viz.* the liquor in which the *Ovum* ſwims, and the *Colliquamentum* contained in the coats of the *Ovum* it ſelf.

3. The branch of the artery which goes to the *Ovary* is ſmall, and makes ſo many windings and turnings, that the *Impetus* of the blood is broke before it can reach the *Ovum*.

4. This is not a mere conjecture; but is proved by experience; for Dr. *Harvey* has obſerved, that a certain *Paſſion*, the moſt violent of all others, and the likeſt to affect the *Ovary*, can neither make it ſwell, nor increaſe its bulk, at no time whatſoever. *Tùm maximè, quod Coitûs tempore, quando maribus teſticuli turgent, & humore ſeminali replentur in cervis, & damis, cæteriſque viviparis omnibus, in quibus reperiuntur, uteri cornua*

immutentur, teſticuli antea dicti nec turgeant, nec quicquam a ſolitâ conſtitutione, ſive ante coitum ſive poſt ipſum turgeant ——— *tempore coitûs teſticuli, qui dicuntur, neque ampliores, nec repleti magis, quam antea nec à priſtinâ ſuâ conſtitutione mutati.* * Now if that paſſion, which is here hinted at, tho' the moſt powerful, cannot, by increaſing the velocity of the blood and ſpirits, cauſe the *Ovary* to ſwell, why ſhould any other paſſion do it?

5. The fecundated *Ovum* comes out of the *Veſicula* with ſuch a facility, that 'tis very doubtful, whether they be joined together by any *continuous* veſſels and nervous fibres: 'Tis more likely, that the *Ovum* has no ſtronger adheſion to the *Veſicula*, than by *appoſition* and *contiguity*.

1. That method is the moſt conſonant to nature which loves ſimplicity and uniformity; and why ſhould the *Ovum* be here in a much different condition than it is in the ſecond *Stage*, where, as I'll deſcribe it in a little time, it is own'd by every body, to be nouriſhed, and to increaſe conſiderably with-

* Harv. Exer. 67.

out

out the leaſt adheſion to the tubes, or to the bottom of the *Uterus*.

2. In Hens, the *Ova* have no other connexion to the *Vitellary*, than by contiguity. * ‘ *The ſtalk of the* Vitellus *is hollow and* ‘ *membranaceous*, and extends, from the ‘ root of the bunch, to the *Vitellus*, which ‘ it has no ſooner reached but it dilates, ‘ and giving it an outward coat, embraces ‘ almoſt the whole *Vitellus*, except in the ‘ moſt remote part from the ſtalk, where ‘ a large line appears, and where no arte-

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* Eſt enim hic *pediolus* nexus membranaceus, qui a racemi fundamento ad *vitellum* producitur, quem cum contingit, dilatatur, & *vitellum* extrema tunica obducit, ambit enim fere integrum vitellum, nam in parte vitelli exteriore, ſive a pediolo maximè remotâ, lata quædam linea apparet, in quâ nullæ arteriæ aut venæ facilè conſpiciuntur, quapropter etiam colorem minus rubicundum refert, atque hæc eſt ſola vitelli pars, quæ exteriori membrana non obducitur, quemadmodum clarè innoteſcit, ſi immiſſo in pedunculum tubulo, flatu exterior tunica diſtendatur, quæ in non maturis ovis interiori firmiter adhæret, in maturis verò ita diſſolvitur, ut vitellus, aut ſponte ſuâ decidat, aut contrahentibus ſeſe exterioris membranæ fibris expellatur, qui ab infundibulo, ſive membranoſa oviductus expanſione exceptus, remanente exteriore tunica cum pedunculo racemo affixa, quam, propter ſimilitudinem *Calicem* cum *Fabricio*, & *Harvæo* vocamus. *R. de Graef.* cap. 13. de mulier. org.

'ries, nor veins are conſpicuous: Upon 'that account it is not ſo red there. This 'is the only place of the *Vitellus*, which 'is not covered with the outward coat. 'As appears clearly by blowing into the 'hollow of the ſtalk, for immediately the 'outward coat ſwells, and though it ſticks 'firmly to the eggs which are not ripe, yet 'in others that are come to maturity, it 'gives way, and the *Vitellus* drops of itſelf, 'or is expelled by the contraction of the fi-'bres of the external membrane, and con-'vey'd by the *Infundibulum* into the *Uterus*, 'the external membrane remaining adherent 'to the ſtalk, therefore, after *Fabricius* and '*Harvey*, we call it *Calix* upon the account 'of their likeneſs.

This obſervation may appear at firſt view to be of too great nicety, and I frankly own, I ſhould think ſo in any other caſe, but in this, where the knowledge of the ſpecies of union is very material, and in a manner the *Jugulum cauſæ*, I hope not to be condemned for inquiring into it; for if the *Ovum* is only lodged in the *Veſicula*, as a ball in a ſocket, without any ſtronger tyes than thoſe of *Contiguity*, I ſee no reaſon, though it is incloſed in the Mother's body, why it ſhould not be reputed to be originally a diſtinct *Individuum*, nor why the Imagination ſhould have more power and authority over that inno-

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cent and harmleſs *Lodger*, than upon the *Lumbricus Latus*, which according to *Nicholas* * *Andry*'s Judgment, is of the ſame origin and age as the patient, who is troubled with it.

6. Now to pleaſe every body, I am very willing to allow, that the *Ovum* is firmly tied to the *Ovary* by many veſſels and ſinews, *&c.* and that it is one of the *Partes Integrantes* of the Mother's body, yet upon that ſuppoſition 'tis impoſſible for her Imagination to make any impreſſion upon it.

For if a ligature or a hard preſſure be made upon a Sinew, or an Artery, the part underneath entirely loſes its communication with the Heart and the *Cerebrum*, and is for that time wholly deprived of motion, and feeling, and if the cauſe be not ſoon removed, it may remain uſeleſs for ever.

For that very reaſon, 'tis not in the power of *Fancy* to affect the *Ovum* after Conception; ſince as I have obſerved before, the Liquor in which it ſwims, growing tough and of a glandulous ſubſtance, preſſes like a *Tourniquet* upon the tender *Pediculus*, and ſtrangling the veſſels and the nervous fibres,

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* *N. Andry*, de la generation des vers.

cuts

cuts off all manner of communication between the Mother and the *Ovum*. It is, as if it was, entirely ſeparated. Imagination does command it no more than a Man paralitical can move his limbs.

The ſecond ſtage of the Fœtus *examined : The* Ovum *no longer a part of the Mother's Body.*

The ſecond ſtage of the *Fœtus*, is when the *Ovum* is paſſing through the *Fallopian Tube* into the bottom of the *Uterus*, and is then, in both places, viſibly *looſe* and without adheſion for a conſiderable time, which makes me believe, that the favourers of Imagination will be ſo prudent, as to give us no great trouble hereafter, but rather ſubmit, and own their miſtake.

The *Tubes* are ſituated on the right and left ſide of the *Uterus* ; they riſe from its bottom by a narrow beginning, which ſcarcely admits of a hog's briſtle. As they go upwards, they dilate ſo much as to be able to receive the end of one's little finger, and winding about, they encompaſs one half of the *Ovary*, at ſome diſtance. At their extremities they contract again into a ſmall orifice, from whoſe circumference they ſpread into a pretty broad and thin membrane, repreſenting the wing of a bat, and like the expanſion of the *Oviduct* in birds, which is joined to the *Ovary* ;

except

except that in a human body this membrane is deeply jagged and fringed. Theſe *Fimbriæ* are very uſeful to make the Tube embrace more cloſely the *Ovary*, and prevent the *Ovum* from falling into the cavity of the *Abdomen*. Though the upper orifice be very narrow, yet 'tis never ſhut up but by accident, as when the *Fimbriæ* enter into it; for, if from the *Uterus* you blow into the Tubes, the wind has immediately a free paſſage through. Their ſubſtance is compoſed of two membranes, which come from the internal and external membranes of the *Uterus*. The internal is full of wrinkles, by the help of which the Tubes have a ſort of *Periſtaltick* motion, and by their contraction, both orifices come nearer to one another. Beſides, theſe wrinkles enable the orifices to enlarge upon occaſion.

Some have doubted of the paſſage of the *Ovum* through the Tube, under pretence, that 'tis too far diſtant from the *Ovary*, and that the orifices are too narrow, as if the ſame objections could not be made againſt the *Oviduct* in birds, and as if the *Orificium Uteri* was not much narrower in proportion to the bigneſs of the Child.

It is certain that the *Ovum* paſſes from the *Ovary* into the *Tube*: 1. Becauſe ſeveral obſervations upon human bodies, and upon brutes have made it evident, that the *Tubes* embrace exactly the *Ovary*, and muſt receive whatever

whatever comes from it. 2. Becauſe the *Ova* are always found looſe in the *Tubes*, in the very ſame number as there are *Papillæ*, and empty places in the *Ovary*. 3. Not only the *Ova* are ſeen in the Tubes, but many accidents demonſtrate the truth of it; for ſometimes the *Fimbriæ* not embracing the *Ovary* long enough, and miſſing their hold, the *Ovum* drops into the cavity of the *Abdomen*; or at another time being ſtop'd in their way by ſome obſtructions, the *Tubes* dilate ſo far as to burſt, to the loſs of the Mother's life, of which you have ſeveral inſtances.

The *Ovum* does not ſtay a little while in the *Tube*, or in the bottom of the *Uterus* without adheſion; but it remains in that condition at leaſt twelve or thirteen weeks after fecundation. * *I have diſſected* (ſays *Harvey*) *ſeveral Embrions of three months, and of the bigneſs of a gooſe egg, and diſtinct in all their parts. During that whole time, no Placenta was to be*

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* Ejus ætatis (trium menſium) abortum ſæpe diſſecui, ad ovi anſerini magnitudinem, cui inerat fœtus omnibus ſuis partibus diſtinctus ——— toto hoc temporis ſpatio (trimeſtri ſcilicet) vix quicquam placentæ, ſive hepatis uterini conſpicitur ——— nullum indicium reperiri licuit, quo conceptum illum ſive ovum, utero adhuc connexum fuiſſe crederem, ſolummodo parte ovi obtuſiore, externa ſuperficies ——— rugoſior, craſſiorque apparuit, tanquam placentæ jam futuræ rudimentum. *Harv. exercit.* 56.

ſeen

ſeen ——— *nothing to make me believe that the* Ovum *was adhering to the* Uterus, *only the ſuperficies on the flatteſt ſide, appeared thicker and rougher, as the firſt rudiments of the* Placenta.

† In ſome brutes, that adheſion is not performed till towards the middle of geſtation, not withſtanding the increaſe and bulk of the animal.

So long as the *Ovum* is without adheſion it imbibes an albugineous liquor, which at that time bedews the external ſuperficies of the tube, and of the *Uterus*.

The *Ovum*, in this ſtage may be compar'd to thoſe plants which ſhoot their roots into water or mud, and draw from thence their nouriſhment.

This nutritious juice is ſuppoſed by ſome to be ſuck'd in and attracted thro' the pores

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† Inſpexi uterum Ovis, quinque ſeptimanis impregnatum, & inveni conceptum nullibi utero junctum. *Wilhelm. Langley.* de generat. animal.

Sues & Equæ carnoſam hujuſmodi copulam non habent. *Harv.* de uteri membranis.

Equa Sui proxima eſt ——— Uterus primæ geſtationis menſibus apertus, ſuilli inſtar, fœtum nondum cohærentem dimittit, nec ulla placentæ aut glandulaſum prodit. *Needham* cap. 7.

In Sue, cujus uterus omnium ſimpliciſſimus, ſi in prioribus ſeptimanis fere uſque ad *Medium* geſtationis tempus ſectionem inſtitueris, invenies membranam hanc tenue ſerum paulatim exudantem, quod a chorio confeſtim imbibitur, minime tamen adhæret utero chorion. *Ibid.*

of the membranes, but that does not ſeem agreeable to nature: For as *Diemerbroeck* has well obſerved, how ſhould that moiſture underſtand to go this or that way? 'Tis moſt rational to believe, that 'tis taken up by a vaſt number of *Fibrillæ* annex'd to the *Placenta*, which though not viſible to our eyes, upon the account of their minuteneſs, are notwithſtanding actually exiſtent in the *Ovum*.

But, let it be how it will, this is certain, that whatever is ſuck'd in by the *Ovum* does never come back to the Mother, and conſequently that it has but a ſlow and languid motion, or elſe the *Fœtus* could not contain it, and it would prove its deſtruction. 2*dly*, That attractive faculty is in the *Ovum*; there's no impelling force on the Mother's ſide. 3*dly*, 'Tis the work of the *Fœtus* to aſſimilate to its body whatever is received from the Mother. I am ſo long upon theſe particulars, becauſe they will be hereafter of great uſe to *remove* ſome objections.

Reflections on the ſecond ſtage of the Fœtus, *in which the* Ovum *is no part of the Mother's Body.*

'Tis plain, that in the ſecond ſtage, the *Fœtus* is an *individuum* diſtinct, and ſeparate from the Mother's body, and conſequently that

that her Imagination can have no effect upon the Child.

1. It has not only no connexion with the *Uterus*, but all the ſeveral functions relating to life are performed independently on the Mother. The heart moves, the blood, ſuch as it then is, circulates, juices are filtrated, the body is nouriſhed and increaſes; the limbs have a motion, and conſequently the *Cerebrum* and the *Genus Nervoſum* do their duty, and all this without the leaſt adheſion to the *Uterus*.

2. Upon which I beg leave to repeat Dr. *Harvey*'s * ſtrong and beautiful expreſſions, which do not only relate to this preſent ſtate of the *Fœtus*, but alſo to the firſt, when it was in the *Ovary*. *Certè concludendum eſt, ovum, etiam in ovario dum eſt, matris animâ non vivere; ſed eſſe inſtar filii emancipati, à primâ ſtatim origine; ſicut arborum glandes, & ſemina à plantis ablata, haud ulterius earundem partes æſtimanda ſunt; ſed ſui juris facta; quæ propriâ, inſitaque potentiâ vegetativâ, jam vitam degant.* 'Certainly 'we muſt conclude, that the *Ovum*,

* Exer. 26.

‘ even when it is in the *Ovary*, does not
‘ live by the ſoul of the Mother, but
‘ that from its firſt origin, it is as a
‘ ſon removed from the tuition of his
‘ guardian, like acorns, and ſeeds,
‘ which being once ſeparated from the
‘ plants they came from, are no more
‘ to be eſteemed any part of them,
‘ but are their own maſters, ſubſiſting
‘ by their proper and natural vegeta-
‘ tive power.

3. There's no communication of blood veſſels, nor of ſinews, between the *Fœtus* and the Mother: Whence then ſhall come that dreadful inundation of ſpirits that father *Malebranche* and ſome others ſpeak of? How can the Mother's Imagination reach the *Cerebrum* of the *Fœtus* and diſturb it?

4. All our faculties are limited; there are certain bounds, beyond which they can't exert their ſtrength; let our paſſions be never ſo violent, yet they are confined within the ſphere of the mind and of the body. By what magick, then, is the Imagination of one being, capable to affect another, which is wholly and entirely a different *Individuum*?

I

If this be well conſidered, and weighed by the favourers of Imagination, I hope they'll abandon their cauſe, and ceaſe to be ſo uncharitable, as to fright honeſt Women with bug-bears, and frightful ſtories, at leaſt during the non-adheſion of the *Fœtus* to the Tube, and the bottom of the *Uterus*. I beg of them to diſtinguiſh times, and to be ſo fair, as to declare roundly to timorous people, 'Now Imagination is not in ſeaſon; 'now you may, for a whole quarter of a 'year, long without any ill conſequence, 'the Child ſhall not receive any bad impreſ-'ſion from your rambling fancy.'

The third Stage of the Fœtus *examined.*

I am now come to the third and laſt ſtage of the *Fœtus*, when the *Ovum* does ſtrongly adhere to the *Uterus* by the help of the *Placenta* and the umbilical veſſels. This is the longeſt of them all, ſince it laſts till the time of the birth, about four and twenty weeks, more or leſs, but it does not eſſentially differ from the ſecond; the *Fœtus* remains ſtill a diſtinct *Individuum* from the Mother, with whom it is united but by *Contiguity*, and is conſequently out of the ſphere of her Imagination.

In one, as I have obſerv'd before, the *Fœtus* is like a plant, which is looſe in the waters, where it ſpreads its fibres and attracts its

its nouriſhment, the water all the while permitting, but not promoting the ſuction.

In the other, the *Fœtus* being increaſed, and requiring a greater quantity of nutritious juice, beſides the danger of its being toſt to and fro, and preſſing too hard upon the neck of the *Uterus*, is like the very ſame plant, which does by its bulk require to be remov'd from the water, and to be ſet in the ground for a greater ſupport, and for ſufficient nouriſhment.

In this ſtage, if the *Fœtus* may be reputed a part of the Mother, 'tis in the ſame ſenſe as an ivy-tree is ſaid to be part of the tree, or of the wall to which it cleaves, and from which it cannot be ſeparated without difficulty, and ſome detriment.

For notwithſtanding the ſtrong adheſion of the *Ovum* to the *Uterus*, no veſſels go from the Mother to the *Fœtus*; there's no circulation of blood between them, no communication of nerves and ſpirits, their ſenſation is different; the *Fœtus*, 'tis true, draws its nouriſhment from the *Uterus*, but 'tis inſenſibly and without return. In ſhort, the Child is as diſtinct from the Mother, as a Child at the breaſt is, as I have ſaid before, ſeparate from its nurſe, upon whom it feeds, and 'tis no more poſſible for the Mother's Imagination to act upon the Child in *utero*, than for a nurſe to make by her Fancy upon the ſuckling babe any Mark or Impreſſion:

Or

Or 'tis no more poſſible, than for the two *Hungarian* girls, which were ſeen in *London* ſome Years ago, and were joyn'd together, to have, by their Imagination, done any injury to one another.

All theſe particulars will better appear by a ſhort deſcription of the parts, and by the following obſervations.

Of the Funis Umbilicalis.

The length of the *umbilical* ſtring is very uncertain, it depends on the age and bigneſs of the *Fœtus*. 'Tis commonly about half an ell long, and about a finger thick; it goes from the Child to the *Placenta*, and contains under a thick coat, two arteries, a vein and the *Urachus*. The arteries come from the *Iliac*, the vein joins the *Vena porta* in the ſubſtance of the liver; 'tis bigger than the arteries, and does appear a long time before them. The arteries have ſeveral *anaſtomoſes* with the arteries, and the veins with the veins. Both * veſſels don't go ſtraight for-

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* Vena interim ipſa modò indiviſa ad diſtributionem uſque permanet, modo in duas dividitur, ſimulque cum duabus arteriis, duplici membranâ obvoluta, per trium vel quatuor ulnarum longitudinem producuntur vena interim in hoc longo itinere variè capreolorum vitis, hederæve modo ſerpit, & varicum in modum conterquetur.

ward,

ward, but wind and turn about, making a moſt admirable texture like a net ; and laſtly, they ſpend themſelves by a vaſt number of ramifications into the *placenta* ; but they go no farther as I'll prove afterwards.

The uſe of the *umbilical* arteries is to nouriſh and feed the *placenta*, and all its moiſt minute fibres, which enter into the *Uterus*. The umbilical vein brings back the redundant blood, and alſo the nutritious juice (let it be what it will) which has been attracted by the *Fibrillæ*, like the left ſubelavian vein, which return to the heart the blood from the artery, and alſo the chyle from the *Ductus Thoracicus*.

The uſe of the umbilical *Funis* is to ſuſtain thoſe veſſels which had been of themſelves too weak in ſuch a long progreſs. 2. To permit the free motion of the Child, without any injury to the *Placentæ*, like a cable which the longer it is, gives the more liberty to the toſſing of the ſhip, without having any ſtreſs upon the anchor. 3. 'Tis alſo uſeful in the delivery.

Placenta.

The ſubſtance of the *Placentæ* is brittle and ſoft, its *parenchyma* is partly glandulous ; 'tis circular, two fingers thick, and about a foot diameter when the *Fœtus* is come to maturity, and ready for the birth.

It

It has an innumerable number of fibres and ſmall veſſels, which come from the umbilical *Funis*, which ſpread into it. On that ſide next to the womb, it is very unequal, and full of a vaſt number of *Fibrillæ*, it does not ſtick to the *Uterus* every where, but where theſe *Fibrillæ* are found. * *Placenta muliebris, gibbâ ſui parte, quâ utero adhæret, plurimis tuberibus inæqualis eſt, videturque iſtorum operâ eidem adnaſci, adeò ut non ubique utero affigatur, ſed iis ſolùm locis, ubi vaſa in eam porrecta nutrimentum eliciunt, & in quibus propterea vaſorum quaſi fines abrupti cernuntur.* In brutes 'tis ſpongy, full of an albugineous juice, which is ſent to the *Fœtus*. The veins and arteries grow ſmaller and ſmaller as they come to the margin. When the *Ovum* is firſt received into the *Uterus* there's no appearance of the *Placenta*; 'tis diſcovered but when the *Fœtus* is almoſt formed, then its rudiments are ſeen, and they increaſe as the *Fœtus* grows bigger.

Uterus.

The ſubſtance of the *Uterus* before impregnation is whitiſh and membranaceous. The arteries and veins come from the ſper-

* Harv. ex. 70.

matick and hypogaſtrick veſſels. The branches of the arteries communicate by ſeveral *Anaſtomoſes* with one another, and the veins on their ſide do the ſame; they don't go in a ſtraight line, but wind about and make ſeveral turnings.

The *Uterus* in pregnant Women, is fungous and ſpongy; its veſſels are ſo large that their cavity may receive the end of one's finger. The more it dilates the thicker it is, and 'tis eaſy to conceive, that the *Uterus* being ſo much dilated the blood cannot circulate through the Tubes with the ſame velocity as before, and conſequently, that the ſeveral uterine glands being ſwelled have an opportunity of ſeparating a ſort of juice for the nouriſhment of the *Fœtus*; as the length of the ſpermatick arterys in Man is very uſeful to the ſeparation of the *Semen*.

That it is ſo, two reaſons prove it. 1. That as ſoon as the *Uterus*, after the birth, does contract its fibres and return to its former ſhape, and its membranaceous ſubſtance, then the milk, which the blood is full of, and which was ſeparated in the *Uterus*, flies to the breaſt in great abundance. 2. By comparative anatomy we know, that in glanduliferous animals the *Uterus* is found to be full of that lacteal juice, as appears by Dr. *Harvey*'s obſervations.

obſervations, *De cervarum & damarum utero.* *

The *Uterus* being ſpongy and dilated, 'tis eaſy for the *Fibrillæ* which are in the under part of the *Placenta*, and in a vaſt number, to creep and penetrate into the widened pores of the *Uterus*, to which they ſtick firmly for ſeveral months, as we ſee roots of herbs, ſhrubs and trees, make their way thro' thick planks, hard ſtones and walls, and ſtrongly *adhere* to them. From thence the *Fibrillæ* do inſenſibly attract the nutritive juice into the ſides of the capillary veſſels of the umbilical vein, where it is mixed withthe blood, and is conveyʼd into the body of the *Fœtus*.

Reflections upon the third ſtage of the Fœtus.

I. I am willing for the preſent to ſuppoſe, though I don't grant it, that there is an immediate circulation of the blood

* Uterus craſſior redditur & carunculæ jam tumidiores mulierum papillas referunt, lacti profundendo paratas crederes. Exercit. 67.

In acetabulis externis hiantibus materia alba & mucilaginoſa reperiebatur quæ, ut mel favos, carunculam totam implebat, eratque colore, conſiſtentiâ, ac Sapore albumini ovi perſimilis. Ex. 70.

Carunculæ, ut dixi, ſanguinem ne mulſæ quidem aut compreſſæ emittunt: quippe non tam illo, quam albumine plenæ ſunt.

between the Mother and the Child; yet I don't ſee by what means her Imagination can reach the *Fœtus* in the third *ſtage*, let her paſſions put the blood and ſpirits into never ſo great a diſorder.

1. I deſire the reader to mind the ſpongiouſneſs of the *Uterus*, the length of the umbilical ſtring, and of the blood veſſels, and how many circumvolutions they make, by all which the *impetus* of the blood is broke, and cannot conſequently make any Impreſſion upon the Child.

2. When the blood enters the Child, it muſt go firſt through the heart before it can be diſtributed to any other part of the body, and if it was brought in too great quantity there it would ſtop, the heart not being able to receive more than the ſmall capacity of the right ventricle, and the diameter of the *Foramen ovale* can allow.

3. The blood flows in an uniform ſtream, and is afterwards, by its circulation, equally diſtributed to the ſeveral parts of the *Fœtus*. Why then is one part more affected by the Mother's Fancy than another? Has the blood ſenſe and reaſon to chuſe one limb before another, and to know the intent and meaning of Imagination?

What

What muſt happen when there are two or three Children in *Utero*, Why ſhould one eſcape the Marks and not the other? ‘ * A ‘ Woman, ſays *Langius*, did heartily deſire ‘ to have three bites from the brawny ſhoulders of a baker. She had fairly two Morſels, but the uncharitable fellow denying ‘ the third, though he had been paid handſomely for it, the Woman being diſappointed was delivered of two living Children, and of one dead.’ This is ſuch a lamentable ſtory, that I draw the curtain upon it, and proceed to another leſs frightful. ‘ † A good Woman telling her friends, ‘ ſays *Cornelius Gemma*, that ſhe expected ‘ to be delivered about the *Epiphany*; they all ‘ wiſhed her a good time, and alſo three ‘ kings, which compliment was ſo very pleaſant to the Woman, that ſhe was brought ‘ to bed of three ſons, one of which was ‘ black, as the painters are pleaſed to repreſent the hiſtory of the *Wiſe Men*, and the others white.’ Now let theſe three Children be called *A*, *B*, *C*, how muſt Imagination go to work, when the Mother herſelf did not know the number of the Children? Why ſhould Fancy be partial, and affect in a particular manner *A* more than *B* and *C*, or *C* or *B* more than others?

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* From *Fienus*, quæſt. 13.
† Ibid.

No Communication of Spirits and blood between the Mother and Fœtus.

II. Now I withdraw the ſuppoſition I have made, and am going to prove that there's neither communication of ſpirits between the Mother and the *Fœtus*, nor circulation of blood from one to the other, and conſequently that they don't make one and the ſame *Integrum*.

1. 'Tis certain, that whatever ſinews were paſſing (if there were any) from the Mother to the *Fœtus*, have been entirely cut off when the *Ovum* came into the ſecond Stage, and was looſe in the *Tube* and the *Uterus*. This has been prov'd before, and cannot be denied.

Now, whenever nerves are divided, they cannot be re-united, and therefore the communication of ſpirits between the Mother and the *Fœtus* is wholly and entirely ceaſed. Let the *Uterus* be ſuppoſed to ſhoot nervous fibres into the *Placenta*, and let the *Placenta* do the ſame into the *Uterus*, yet there are two ſenſations. What the Mother feels is nothing to the *Fœtus*; one may be in pain when the other is free from it; one ſleeps when the other is awake; one is often dead when the other is alive: Since then there is no communication of

of the *Genus Nervoſum* between the Mother and the *Fœtus*, I think I have a right to conclude, that they are two different beings, and that the effect of the Mother's Imagination cannot be tranſmitted to the Child.

2. The *Secundines*, *viz.* the membranes the *Fœtus* is wrapped in, the umbilical veſſels, and the *Placenta* are not the growth of the *Uterus*; but they are originally in the *Ovum*, and come gradually to perfection.

That's eaſily proved by the ſtructure of the umbilical ſtring, which, by ocular demonſtration, appears not only to be continuous to the *Fœtus*, but it is ſeen in the *Ovum*, even before any adheſion to the *Uterus*.

The ſame is to be ſaid of the *Placenta*, the firſt rudiments of which are like a woolly ſubſtance on the outſide of the *Chorion*, about the eighth or ninth week; and upon which a red carnous and ſoft ſubſtance grows but inequally, and in little Knots, and then it preſently ſticks to the Womb, and is very conſpicuous about the twelfth or thirteenth week. Dr. *Harvey* has obſerved the *Fibrillæ* of the *Placenta* to ſpread like ſmall threads, *Mucoſa quædam filamenta, tanquam aranearum telæ ducuntur*; filaments like cobwebs.

On

On the other ſide, the *Uterus* does not ſeem to ſend any blood veſſels into the *Placenta*; for as * *Arantius* has well obſerv'd, there would be in every birth too conſiderable a dilaceration, which could not be cur'd without a great deal of difficulty, and I dare ſay impoſſibility, ſo much blood the Arteries, though never ſo ſmall, but very numerous, would diſcharge.

3. From thence I dare draw this conſequence, that there's no direct and immediate communication between the veſſels of the *Uterus* and the *Placenta.*

This is the opinion of ſeveral learned Anatomiſts. † *Clare conſtat, vaſorum umbilicalium extrema, cum vaſis uterinis per anaſtomoſim non jungi, neque ſanguinem ex illis hauriri, ſed in mucagine iſtâ terminari, atque obliterari, indeque ſibi alimentum ſumere.* 'Tis 'plain, that the extremities of the umbilical 'veſſels are not joined with thoſe of the *U-* 'terus by *Anaſtomoſis*, nor draw any blood 'from them, but they terminate, and are ob- 'literated in a ſlime.'

This communication of blood veſſels appears to be ſuperfluous and unneceſſary, ſince

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* *Arant.* ch. 7.
† Harv. Ex. 70.

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in the ſecond ſtage of the *Fœtus*, it is nouriſhed and increaſes without it: Is nature on a ſudden become fickle and inconſtant in its proceedings, contrary to its uſual cuſtom?

The under part of the *Placenta* is full of a vaſt number of *Fibrillæ*. If we look upon them as *Tendrels*, 'tis eaſy to conceive, that they have no great difficulty to make their way into the pores of the *Uterus*; but as ſoon as we ſuppoſe them to be of two different kinds, *viz.* arteries and veins, then 'tis impoſſible for us to underſtand how the uterine arteries can meet with the umbilical veins, and *vice verſâ* the umbilical arteries with the uterine veins, except they have ſenſe and reaſon, and know one another.

Beſides, let us conſider, that the Flux of the arterial blood, which generally is very ſtrong, muſt in courſe prevent the union of the arteries with the veins at their firſt approach.

4. Another conſequence follows, that there's no common circulation of blood between the Mother and the *Fœtus*.

Is it conſonant to reaſon to believe, that in the third ſtage of the Child the circulation of the blood does depend upon two different powers, when there is but one in the ſecond?

The pulsation of the heart in a *Fœtus* is weak and obscure, and the motion of the blood slow and languid: On the contrary, the circulation in the Mother is performed with strength and velocity: How then can the *Fœtus* keep pace with the Mother?

It is plain that the uterine arteries would fling into the *Fœtus* more blood than can be reconvey'd to the Mother by the umbilical vessels.

That the circulation in the *Fœtus* is distinct from the Mother's, appears by the difference of the pulse in one and the other. 'Certum 'est, * arterias illas, non matris, sed cordis 'proprii virtute agitari, quippe Rhythmum, 'sive ordinem a matris pulsu diversum ob-'tinent: idque facile experiri licet, si ma-'num alterum carpo matris, alteram umbi-'lici funiculo admoveris. *It is certain, that the arteries of the* Fœtus *are moved by the power of its heart, and not of the Mother, because the pulsation is not the same, as 'tis easy to observe, if you put one hand upon the Mother's Pulse, and the other upon the umbilical string.*

But, what seems to be a strong and invincible argument is, that if there was such a *Continuity* of vessels, and such *Transfusion* of blood, the *Fœtus* must necessarily perish by loss of blood upon the separation of the

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* *Harv.* Exer. de umbil.

Placenta

Placenta from the *Uterus*; but on the contrary, no visible flux of blood does follow, while the *Fœtus* continues adhering to the *Placenta*, in which condition it may be kept alive for a considerable time: What greater proof can we have that the circulation is not in partnership?

'Tis objected, I know, that a great flux of blood does constantly follow upon drawing the *Placenta* from the *Uterus*, as a demonstration of the continuity of the vessels; but this proves only that the *Fibrillæ* of the *Placenta* are so blended with the uterine vessels that they cannot be separated without a *dissolutio continui*; the like we see in walls which lose some part of the mortar when you pull off the plant which adheres to them.

* I find another objection in Dr. *James Drake*'s discourse upon respiration, delivered to the *Royal Society*. Mr. *Cowper*, says he, *to whose happy industry we owe the confirmation of many ancient discoveries, and the benefit of some new ones; has the honour to re-establish this old, but long exploded truth*, [of the uterine and umbilical vessels communicating one with another] *for by pouring* Mercury *in a Branch of the* uterine Artery *of a* Cow *that went into one of the* Cotyledones *of the* Uterus, *he filled those branches of the* umbilical Veins

* Miscellanea Curiosa. pag. 198.

which went from that Cotyledon *to the* Navel *of the* Fœtus, *which, with a part of the* Uterus, *he keeps prepared by him.*

To which I anſwer, 1. That Mr. *Cowper* making his experiment upon the *Uterus* of a *Cow*, does ſeem to intimate as if he expected no ſuch ſucceſs upon an human body. 2. This ſhews how deceitful mercurial injections may be now and then, and how unhappy Dr. *Drake* has been in the choice of his proofs, ſince 'tis very well known, that the umbilical ſtring in a calf does terminate in certain bodies, divided into a multitude of carneous *Papillæ*, as I may ſo call them, which are received into ſo many ſockets of the Cotyledones growing on the Womb, which carneous *Papillæ* may, without force or laceration, and effuſion of blood, be drawn out of thoſe ſockets. *Unde patet, vaſa ſanguinea matris non continuari cum vaſis ſanguineis fœtûs.* ' *It appears by this, ſays* Stenon, *that the blood* ' *veſſels of the Mother are not continuous with* ' *thoſe of the Fœtus.*

5. Laſtly, conſidering that in the third ſtage the *Fœtus* is not *eſſentially* different from what it was in the ſecond, that it has a diſtinct *Genus Nervoſum*, and a diſtinct and ſeparate circulation of the blood within it ſelf, and proper vital functions on its own account, I think, I may draw the ſame concluſions as before, and declare, that the *Fœtus* in

in this laſt ſtage is no part of the Mother, but a diſtinct *Individuum*, and conſequently the Mother's Imagination cannot do it the leaſt Injury at any time whatſoever.

A Sketch of the Cauſes of Monſters.

THIS ſubject is ſo copious, that I hope the reader will be ſatisfied with a few and general remarks, upon which all others depend, till another opportunity offers itſelf to be more particular.

What neceſſity is there to have recourſe to *imaginary* cauſes, when Marks and Deformities can be accounted for in a natural Way?

Why ſhould we be ſurprized at ſome irregularities on the skin, and other parts of the human body? Don't we ſee the like every day upon vegetables, though they are not capable of Imagination? They have their Moles, their hairy Parts, their Diſcolorations, their Excreſcences, and now and then ſuch odd Shapes, as to make ſtrange repreſentations, ſometimes of animals, ſometimes of other things, and all this without the help of Fancy.

If a due catalogue was drawn of ſuch irregularities in the body of Children, as are ſuppoſed to proceed from the Mother's Imagination, would they not appear to be the ſame over and over again, with no great difference, and capable to be reduced into certain claſſes? does not this intimate, that they proceed from the laws of motion, and the ſtructure of the body?

Monſters ought to be leſs amazing than the wonderful *Uniformity* that does commonly reign among living creatures of all kinds. This may be taken at firſt for a *Paradox*, but the truth of it will appear plain, if we conſider, that the original rudiments of animals in the creation being infinitely ſmall, and compoſed of a prodigious number of very minute parts, which the leaſt ſhock might put out of order, have conſequently been all along threatened with ruin, and diſſolution, and yet they have perſiſted whole and entire, except in few extraordinary caſes, which are accounted for by theſe four reaſons: 1. The variety of particles and of their combinations. 2. The diſtempers of Children in *Utero*. 3. The interruption of the increaſe of ſome parts of the Child. 4. force and violence upon the body of the *Fœtus*.

The Variety of Particles and of their Combinations, the firſt Cauſe of Marks *in Children.*

'Tis the opinion of very learned philoſophers, that there are not in the whole world two atoms, that be both alike. If it is ſo, 'tis eaſy to conclude, that two combinations of an equal number of atoms on each ſide will never make two bodies exactly the ſame; as for inſtance, there are not two leaves of the ſame dimenſions, and though they have ſimilitude enough to entitle them to ſuch a denomination, yet they differ ſomewhat in ſhape and bigneſs.

'Tis the ſame in Men: As we differ in the look, ſo the ſeveral particles that make up the fibres, and the fibres that make up the body of one, do differ from thoſe of all others.

We obſerve eaſily the truth of this upon bones and blood veſſels. Take never ſo many bones of the ſame kind, and of the ſame bigneſs, as near as poſſible, yet you'll find a vaſt difference in their ſhape, in their cavities, in their heads, in their *Apophyſes*, or Protuberances, and what is more remarkable, in the number and place of the *Foramina*, thro' which the blood veſſels come in and go out. This alſo proves, that arteries and veins have not in all Men the very ſame diameter, ſituation and branches, which now and then cauſes Phlebotomy to be

be difficult and dangerous: In ſome the artery is ſo deep, that the pulſe can't be felt; in others it creeps upon the ſuperficies of the skin, and ſometimes 'tis ſo framed, that the pulſe appears to be intermittent.

This is called *Luſus Naturæ*, which does eaſily account for ſome few ſingularities, and eſpecially for thoſe diſcolorations which receive divers names, either of an Apricock, of a Peach or a Mulberry, according to People's Fancy. And, as they depend upon the blood veſſels being too ſuperficial, there's no wonder if they make a greater ſhew in ſummer time, when the blood is rarified and in a ferment, than in winter, when it is more concentred.

Diſtempers of Children in Utero, *the ſecond Cauſe of* Marks *and* Deformities.

The *Fœtus* is a diſtinct *Individuum*, as I have ſhewn before; it has the circulation of the blood independent on the Mother, its own *Genus Nervoſum*, a ſeparate ſecretion of juices, and all the functions of the animal Œconomy by itſelf.

'Tis upon that account, we ſee that a weak Mother has ſometimes a very ſtrong and luſty Child, and *vice verſâ*, that Children are feeble and ſickly when the Parents are in good health. For there's no manner of doubt but the *Fœtus* in *Utero* is as liable to diſtempers,

tempers as if it was born. It is ſubject to the yellow Jaundice, which it brings often into the world; to the Palſy, to Apoplectick Fits, and ſeveral others, as obſtructions, which deprive ſome parts of due nouriſhment, and turn the humours too much upon others. All theſe are the true conſequences of the organs of the body, and of the motion of the ſeveral juices.

* If *Fabricius Hildanus* had well conſider'd this, he would never have made his endeavours, as he did, to perſwade a young woman, that the *Hydrocephalus*, her Child was born with, was the effect of Imagination, by an object ſhe had ſeen ſeveral years be-

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* Anno 1608, cum Aquilam ad Rhodanum fluvium a generoſo quadam vocatus fuiſſem, puerulus *Hydrocephalo* laborans adductus mihi fuit, quemadmodum videre poteris cent. 3. obſ. 17. Erat autem inter domeſticos puella, undecim vel duodecim circiter annorum ætatis, quæ circa infantulum verſabatur, & caput tractabat: hæc cum poſt *annos aliquot* viro nupſiſſet, & infantem *Hydrocephalo* laborantem enixa fuiſſet,——in conſilium ego vocatus fui. Cum itaque eâ, qua fieri potuit, diligentiâ ex matre inveſtigarem, quænam poſſit eſſe cauſa morbi, nullam verò ſatis validam reperirem, in mentem veniunt, quæ *Cent.* 3. *Obſ.* 17. de Hydrocephalico puero commemoravi: ex matrona itaque perquiro, anne aliquandò dum utero geſtaret, puerum iſtum Hydrocephalicum in memoriam ſibi revocaverat? reſpondit, ſæpiſſimè imaginationem itaque hujus malipræcipuam fuiſſe cauſam, apud me nullum eſt dubium *Cent.* 4. *Obſ.* 3.

fore. He had been aſhamed of his weakneſs, and of his proceedings; for if at any other time that diſtemper is very common, why ſhould Imagination be the only cauſe of it in the *Fœtus*.

The Increaſe of ſome parts of the Fœtus *being interrupted, is the third Cauſe of* Marks *and* Deformities *in Children.*

The parts of the *Fœtus* are delineated at once in the *Ovum*, but they don't all increaſe in the ſame proportion, ſome making their appearance very ſoon, when others are not obſerved till a long time after. At firſt, the *Cerebrum* and *Cerebellum* look like two watery bladders, they are only covered with a thin membrane. The arms and legs are very ſhort —— the *Thorax* and the *Abdomen* are opened: The bones are like ſoft threads, and by degrees grow cartilaginous till they grow hard; there are neither lips nor cheeks; the mouth is wide from ear to ear. There are many other remarkable things in the growth of the *Fœtus*, but not neceſſary to be taken notice of here.

Now if the *Fœtus* be diſtempered, and if accidentally the obſtruction of ſome veſſels does put a ſtop to the nutrition of any part, which remains as it was at firſt without any conſiderable improvement, while others are come to their full perfection, then the

the Phænomena appear ſo odd, that they are immediately decreed and pronounced to be monſtrous, and put to the ſcore of the Mother's *Imagination*; though there's nothing, but what is according to the courſe of nature in its beginning, and before it comes to its accompliſhment, of which I'll give ſome few Inſtances.

1. What's the reaſon that ſome Children are born without any viſible *Cerebrum?* You have this caſe in *Blegny*'s journals, *April* 1680. *Obſ.* 3. *Puella ſine cerebro nata. In tota cranii capacitate nihil præter aquam limpidam deprehendere licuit, omnino adimplentem membranas, nullo præſente Cerebro, aut ſubſtantia ſolida. A Girl born without brain, and lived five days. There was in the cavity of the cranium, nothing but clear water, which filled the membranes, without brain or any ſolid ſubſtance.* I anſwer, That the brain appears at firſt like a wateriſh ſubſtance, and that upon the account of ſome obſtructions the *Cerebrum* of this Girl remained in the ſame ſtate. † *In capite, circum creſcente membranâ, ex aquâ limpidiſſimâ* Cerebrum *concinnatur.* ——— Cerebrum & Cerebellum, *ex*

† Harv. Exer. 56.

limpidiſſimâ aqua in coagulum *calloſum denſantur. The brain is made up of a very clear water* —— *The* Cerebrum *and* Cerebellum *are changed from a very clear water into a* Coagulum.

2. What's the reaſon that the *Cooper*'s wife was brought to bed of a Child, whoſe *Viſcera* were hanging out of the *Abdomen*? I anſwer, That they are ſo in the *Fœtus* for a conſiderable time, and that this Child had probably had ſome diſtemper, which hindered the growth of the Integuments. 'Viſcera * omnia, '& inteſtina, intra corporis cavum 'non reconduntur, ſed foris, pendula, '& quaſi venulis annexa, prominent: 'imo vero, & cor ipſum.' *All the viſcera and the inteſtines, even the heart it ſelf, are not ſhut up in the cavity of the body, but they hang out as if they were tied by the veins.*

3. What's the cauſe of *Hare Lips*? I anſwer, 'Tis the ſame, *viz.* an Interruption in the growth of the *Cutis*. 'In '† Humano *Fœtu*, cutis, parteſque 'omnes cutaneæ, ultimo loco perfici-

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* Fabri. Cent. 6. Obſ. 65.

† Harv. Exer. 56.

'untur,

' untur, ideoque inter initia, nec labia,
' nec buccæ, nec auriculæ, nec palpe-
' bræ, nec naſus diſcernuntur.' *In a human* Fœtus, *the ſkin and all ſkinny parts come laſt to perfection, and therefore the lips, the cheeks, the ears, the eyelids and the noſe, are not ſeen in the beginning.*

4. Why do theſe Monſters have ſometimes the look and figure of a *Monkey*, and even of a *Devil?* I anſwer, that the lips and the cheeks not being come to perfection, and the Mouth opened from ear to ear, appear frightful to the ſpectators, and give room to thoſe ſilly Notions.

5. What's the reaſon of ſpots upon the cheek of the colour of red wine? I anſwer, 'tis eaſy to perceive that they are not the effects of *Imagination*; for why ſhould Women long only for red wine, and not ſometimes for white; is this laſt ſo deſpicable, or proof againſt ſtrength of Fancy? I anſwer, 'Tis not difficult to diſcover the origin of that colour. It proceeds very often from the *Cutis* wanting its due thickneſs, and appearing, if moſt of theſe caſes be well obſerved, as if it had been flead or pared off, whereby the blood is more conſpicuous

conſpicuous upon the ſuperficies: Sometimes the defect is not ſo much in the skin as in the ſtructure of the arteries and veins, the capillary branches of the firſt being numerous and dilated, and thoſe of the others few and narrow, and diſcharging the blood but ſlowly: And why ſhould ſuch a thing be aſtoniſhing in new born Children, when we ſee every day, Men, who were before naturally of a white and fair complexion, to get in few months a red face, or a red noſe.

Force and Violence upon the Body of the Fœtus, *one of the Cauſes of Marks and Deformities.*

This is ſo plain, that I ſhall not inſiſt much upon it, ſince it brings its own demonſtration along with it: 1. 'Tis eaſy to conceive, that the body of the *Fœtus* being ſoft and tender, is liable to be bruiſed, and daſhed in pieces by the ſtrong convulſions of the *Tubes*, and thoſe of the *Uterus*, and by the violent contraction of the muſcles of the *Abdomen*, which preſs upon it with great force. 2. In that ſtruggle, 'tis poſſible for two or three *Ova* to be ſo intermixed with one another, as to make an odd and monſtrous compoſition, and to fix upon a ſingle Child the fragments of the others. 3. The

Fœtus

Fœtus may alſo ſuffer much by the falls of the Mother, or by the blows and wounds ſhe does receive. 4. But what is more remarkable and wonderful is, that the true cauſe of theſe ſtrange accidents is not always confined within the narrow compaſs of nine months, but is now and then of very old date, for ſince the rudiments of all animals are *a principio*, let us ſuppoſe, that an *Ovum*, which exiſted four or five thouſand years ago, has had at that time, an accidental bruiſe, or ſome other damage, either by ſickneſs or by poiſon, yet it may be, the Child that came firſt, and immediately from that *Ovum*, has been well ſhaped, and regular in its limbs, and a great many alſo of its poſterity, when on a ſudden, and after ſeveral *Evolutions*, a monſtrous Child may be born with great deformities, upon account of the old misfortune ſome few particles of its body, which were *infinitely* ſmall in the primitive *Ovum*, having been then diſplaced, confuſed or dilacerated.

Thus you ſee the Mother's Imagination is wrongfully brought in guilty of faults of which it is innocent, and theſe very often owing to remote cauſes, which had taken effect even a long time before ſhe came into the world.

My

My arguments, which are very numerous, ſtrengthen and ſupport one another, and, I hope, if they are well weighed and conſidered, the reader will be perſuaded, that the common opinion is nothing elſe but a vulgar error.

F I N I S.